Input Indicators of the British Columbia Technology Sector: 2015 Edition

PREPARED FOR THE MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

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BRITISH COLUMBIA

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Executive Summary

The high technology sector is a vital part of the B.C. economy. This is reflected in the B.C. government's first technology strategy, which includes a $100-million technology innovation fund to fuel the venture capital market in the province.[1] High technology firms tend to be innovative and efficient. They create goods and services that confer benefits on other parts of the economy by improving productivity and profitability, while at the same time providing relatively high-wage employment.

The 2015 edition of the *Input Indicators of the British Columbia Technology Sector* report is prepared by BC Stats, and is the twelfth in a series of reports that began with an edition produced in 2000. This series of reports highlights some conditions affecting British Columbia's high technology sector from a supply-side perspective. This year, the report tracks the evolution of 38 business and economic climate indicators necessary to sustain and develop the high technology sector in B.C. and provides comparisons to other provinces and Canada as a whole. The indicators cover key aspects of the educational, business, government, external, and labour sectors from the point of view of their impact on high technology businesses. In addition, a total of 12 indicators from the BC Student Outcomes survey data are included, along with supporting tables in the Appendices.

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[1] See a full description of the B.C. government's #BCTECH strategy here: https://bctechstrategy.gov.bc.ca/

The indicators in this report, which can be termed "input" measures, are chosen for their relevance and general acceptance, as well as their availability on an ongoing basis. All indicators have been updated to the latest year for which data were available as of January 2016.[2]

Indicators of the success, or "outputs" of the high technology sector, are covered by a companion report, the *Profile of the British Columbia Technology Sector*. The Profile contains information on high technology gross domestic product (GDP), employment, wages and salaries, revenues, establishment counts and exports and imports.

The picture of British Columbia that emerges from the most recent input indicators is varied. In many areas, British Columbia compares quite favourably with other provinces, and has shown notable growth. On the other hand, performance has lagged in some areas. As such, the detailed indicators have great potential for offering tangible direction for government policies and industry growth strategies.

The indicators covered in this report span available data for the most recent reporting years and, in many cases, date back at least a decade. Where available, data are included for other provinces. Regional data for British Columbia have not been incorporated into the report, due mostly to data availability and gaps in information. Similarly, international statistics have not been included, mainly because of the difficulty of making valid comparisons of indicators collected with varying definitions and against very different backdrops of social and economic organization.

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[2] Some of the data come from reports, studies, and/or surveys that are only released bi-annually and, in other cases, less frequently. Every effort has been made to use the most recent data possible.

Highlights

Education Sector

In terms of performance in the education sector, British Columbia generally fares well. B.C.'s universities have excelled in technology licenses, start-up companies formed, and patents issued. Funding for researchers in the province's educational institutions is also quite strong, and the general population presents well in indicators of technology adoption.

Conversely, B.C. tends to lag other provinces in indicators of overall educational attainment. Despite continuing to have the highest percentage of the population with high school education, a rank it has held for nearly two decades, the province falls short with respect to the training of new graduates in some specific disciplines.

It will be interesting to see how the education-based components of the B.C. government's new technology strategy, such as the addition of coding to school curriculum and providing high-speed Internet access to 100% of the province, will impact the province's educational and tech-adoption indicators in the future.

Business Sector

Compared to other Canadian provinces, British Columbia returns above average ratings in approximately half of the business stimulus indicators. The ratio of research and development (R&D) performance by business to provincial GDP remains below the national average, but B.C. still holds a solid ranking of third among the provinces. Also, B.C. leads the country in per capita venture capital investment.

British Columbia also scores below average on some other business stimulus indicators, such as patents awarded per capita.

Some indicators could potentially be improved by the provincial government's strategy to boost the number of tech companies connected to foreign markets, as well as the establishment of a $100 million fund to provide local start-ups with more venture capital.

Government Sector

Taxation of individuals, small businesses and corporations is more favourable in B.C. than in most other provinces. All three levels of tax rates in the province have decreased over the last decade and remain among the lowest in the country. The province also fares somewhat favourably in terms of gross expenditure on R&D as a share of GDP.

On the other hand, combined federal and provincial government performance of R&D (as a share of GDP) is lower in B.C. than in every other province.

External Sector

In relation to its population size, British Columbia is on par with other regions in attracting skilled foreigners, although their average level of education tends to be slightly lower than in some other provinces of destination. The province also continues to see a net inflow of people from other provinces, bolstering the supply of well-trained, educated workers. B.C. imports of high technology goods—which can be an indicator of future production, since imported components are often used to produce high tech products—have been climbing for three straight reporting years.

The B.C. government's support for shortening the waiting period for skilled foreign workers coming to B.C. under the B.C. provincial nominee program, as well as its support for the federal government's Express Entry immigration program for workers with specialized tech skills have the potential to impact many of these indicators in the future.

Labour

Unemployment rates among workers in the natural and applied sciences in B.C. remains substantially lower than for the economy as a whole. In terms of researchers per capita, British Columbia maintains a third-place standing. The province's largest city remains among the most desirable places to live in the world, ranking first in the Americas for quality of life, despite its somewhat high cost of living.

Post-Secondary Outcomes

Results from the most recent BC Student Outcomes surveys indicate that graduates from high technology-related disciplines continued to be satisfied with their education and found their studies useful in the workplace. Of those employed at the time of the survey, the majority were working full-time and found that their educational training was relevant to their position. Graduates working in high technology fields also earn substantially more, on average, than those working in non-high tech occupations.

Indicator Summaries

An ongoing feature of this publication is the simple description of the trends in each indicator as up, down or stable (indicated in summary tables as: ↑,↓ or →). The assessment is made with regard to the trend over the span of time for which the data are available and for the latest period.[3] Also included is a comparison ranking B.C. with the provinces for each indicator. Since the last edition (2014), the trend in some indicators has been re-evaluated, based on the latest information. Table 1 provides a quick summary of trends and rankings for each indicator. Summary results for each sector are presented at the start of each section in the body of the report. More detailed statistical information is contained in the tables in the Appendix.

TABLE 1. QUICK SUMMARY OF INDICATORS

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
EDUCATION SECTOR			
E-1: Percentage of population with a high school diploma	↑	↑	1 of 10
E-2: Percentage of pop. with post-secondary credentials	↑	↑	6 of 10
E-3: 13 year-old student achievement in science	↑	↑	3 of 10
13 year-old student achievement in math		↑	5 of 10
E-4: Total bachelor degrees awarded per 100,000	↑	↑	6 of 10
E-5: Total graduate degrees awarded per 100,000	↑	↑	6 of 10
E-6: Bachelor degrees awarded in engineering*	↑	↑	8 of 10
E-7: Bachelor degrees awarded in computer science*	↓	↑	3 of 10
E-8: Bachelor degrees awarded in physical & life science*	↑	↑	6 of 10
E-9: Percentage of households using the Internet	↑	↑	1 of 10
E-10: Income from technology licenses at U-15 universities†	↓	↑	3 of 15
E-11: U.S. patents issued to U-15 universities‡	↑	↑	3 of 7
E-12: University start-up companies formed‡	↓	↓	4 of 7
E-13: Higher education performance of R&D (HERD) to GDP		↓	7 of 10
E-14: Per capita grants and awards funded by CIHR	n/a	n/a	3 of 10
E-15: Per capita projects funded by CFI: Health	n/a	n/a	4 of 10
E-16: NSERC grant & scholarship expenditures	n/a	n/a	3 of 10
E-17: Canada Research Chairs	n/a	n/a	3 of 10

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[3] Note that the fact an indicator may be rising in relation to other provinces does not necessarily indicate an advantage for British Columbia. For example, above average taxes would normally be viewed as a negative indicator from the point of view of the high technology sector. For this purpose, the summary arrows are colour-coded to indicate positive (green), neutral (yellow) or negative (red) trends.

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
BUSINESS SECTOR			
B-1: Patents per 100,000 persons	→	↓	6 of 10
B-2: Patents granted as a % of applications, 3 year average	↑	↓	7 of 10
B-3: Entries to the high tech sector	→	↓	n/a
B-4: Exits from the high tech sector	→	↑	n/a
B-5: High growth high tech companies	→	↓	n/a
B-6: Venture capital investment, per capita	n/a	n/a	1 of 10
B-7: Venture capital investment: share of Canadian total	n/a	n/a	3 of 10
B-8: Business expenditure on R&D (BERD) to GDP	→	↑	3 of 10
GOVERNMENT SECTOR			
G-1: Personal tax index individual with $80,000 income	↓	↑	1 of 10
G-2: Small business tax rate	→	→	3 of 10
G-3: Corporate income tax rate	→	→	2 of 10
G-4: Government expenditure on R&D (GOVERD) to GDP	→	↑	10 of 10
G-5: Gross expenditure on R&D (GERD) to GDP	→	↓	4 of 10
EXTERNAL SECTOR			
X-1: Percentage of immigrants with 16+ years of education	→	↑	8 of 10
X-2: Median years of schooling of immigrants	→	↑	6 of 10
X-3: Net inter-provincial migration	→	↑	2 of 10
X-4: High technology imports	↑	↑	n/a
LABOUR			
L-1: Unemployment rate for natural and applied sciences	→	↑	2 of 10
L-2: Research personnel per 100,000 population	↑	↓	3 of 10
L-3: Quality of life, Vancouver∞	↓	→	5 of 221
L-4: Cost of living×	→	↑	10 of 11

Note: Ranking is across the ten provinces unless otherwise indicated in the following footnotes.

* The tables for these indicators are split into part (a) for Bachelor degrees and part (b) for Graduate degrees. Data for degree area of engineering include architecture, engineering and related technologies; data for degree area of computer science include mathematics, computer and information sciences. Ranking is measured on a per capita (per 100,000 persons) basis.

† The ranking compares UBC to all U-15 universities.

‡ This indicator is a sum of the U-15 universities. The ranking is out of 7 because only 7 provinces have U-15 universities.

∞ The ranking compares Vancouver to 221 cities worldwide.

× The ranking compares Vancouver to 10 other Canadian cities.

INDICATORS	DACSO Graduates		BGS Graduates	
	High Tech Program	Non-High Tech Program	High Tech Program	Non-High Tech Program
O-1: Satisfaction with education	94%	93%	92%	93%
O-2: Quality of instruction~	94%	94%	92%	95%
O-3: Further studies since graduation	31%	32%	54%	52%
O-4: In the labour force	88%	92%	78%	90%
O-5: Employment rates	78%	83%	70%	84%
O-6: Unemployment rates	10.3%	9.3%	10.2%	6.9%
O-7: Job related to training^	83%	78%	71%	73%
O-8: Knowledge, skills & abilities useful in job^	87%	85%	81%	85%

	DACSO Graduates		BGS Graduates	
	Employed in High Tech Occupations	Not Employed in High Tech Occupations	Employed in High Tech Occupations	Not Employed in High Tech Occupations
O-9: Training related to job^	93%	78%	85%	73%
O-10: Paid worker^!	95%	95%	96%	95%
O-11: Full-time employment^	88%	83%	96%	83%
O-12: Median income (hourly for DACSO, annual for BGS)	$25	$20	$58,000	$45,000

~ On the DACSO Survey, quality of instruction was asked using a 5-point scale: very good, good, adequate, poor, and very poor. Percentages presented for DACSO quality of instruction include very good, good, and adequate. On the BGS Survey, quality of instruction was asked using a 4-point scale: very good, good, poor, and very poor. Percentages presented for BGS quality of instruction include very good and good.

^ Of those respondents who indicated they were employed.

! In the DACSO Survey, respondents were asked if they were paid workers or self-employed. In the BGS Survey, respondents were asked if they were paid workers, self-employed, or both a paid worker and self-employed. Percentages presented for the BGS Survey represent the percentage of respondents who indicated they were solely a paid worker and those who indicated they were both a paid worker and self-employed.

Note that data from the DACSO and BGS surveys are for British Columbia only and, therefore, provincial comparisons are not available. Due to small numbers, three years of data had to be combined in order to be able to present reportable figures. As a result, time series comparisons are not possible either.

Introduction

Background

Over much of the last century and particularly over the past few decades, information has grown dramatically in importance as a driver of economic growth. Although industry has been knowledge- and technology-based throughout history, global and local economies alike have become far more dependent on the production, dissemination and use of knowledge. In turn, output and employment have expanded rapidly in high technology industries, which rely heavily on knowledge as a primary input. As such, these industries are obvious starting points for measuring the impact of new knowledge-based technologies on economies.

In 2000, BC Stats released the first edition of *British Columbia High Technology Input Indicators: The 1990s*. The purpose of the report was to monitor the high technology sector from the input side, by measuring and analyzing the production and application of knowledge, and the climate, institutions and funding arrangements that make this knowledge available for the development of the provincial high technology sector. The report has been updated regularly since then, this being the twelfth edition.

A companion report, *Profile of the British Columbia Technology Sector*,[4] has been produced by BC Stats regularly since 1994. The profile focuses on measures of gross domestic product (GDP), employment, wages and salaries, revenues, establishments, and exports and imports. Such measures could be referred to as the outputs of the high technology sector and the profile provides a broader overview of where B.C.'s high technology sector has been and where it might be heading.

While there is obvious value in monitoring the "output" of the high technology sector, information about the processes that give rise to that output are also of key importance, both for potential investors interested in the infrastructure available in the province and for policy-makers who require this data to make informed policy decisions. In fact, the high technology sector and the surrounding infrastructure are a complex system with many players and interactions. Understanding this system is a matter of identifying the various parts and collecting information that shows how these parts behave and interact over time. For a more detailed description of the high technology "system," see Appendix I. A list of industries that are included in the high tech sector is available in Appendix II.

Information on the high technology system can help show the best ways to promote growth in the sector. This may include assistance to parts of the system that are only indirectly linked to actual production. For example, improvements to the secondary school system may seem very different from output subsidies or tax cuts for high technology firms, but both may have the effect of promoting growth in the high technology sector in the long term. Good information provides policy makers with the tools to assess the current situation, as well as an indication of where more effort may be needed to provide an environment in which high technology and other knowledge-based industries can thrive.

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[4] Available at www.bcstats.gov.bc.ca

Comparison with Other Jurisdictions

Wherever possible, the indicators selected for this publication use comparisons to other provinces and show the range of what is possible, or what has been achieved, in the high technology sector within a Canadian context. The publication focuses on trends in British Columbia as they compare to those in other provinces.

The "Quick Summary" Tables

The indicators selected for this publication represent only a fraction of the information base that is available for the high technology sector. However, even this number of indicators measured over time and across provinces poses a challenge to readers looking for an overview of the current situation and an indication of which areas warrant further study. To meet this challenge, this report is first divided according to the "sectors" outlined in the model diagram (see Appendix I). Each of the resulting sections covers a number of individual indicators.

The summary makes use of up, down and horizontal arrows (🡅,🡇,➔) to show whether the indicator has risen, dropped or remained relatively stable. The assessment is made with regard to the trend over the span of time for which the indicator is available and for the latest period. The summary arrows are colour-coded to indicate positive (green), neutral (yellow) or negative (red) trends. Wherever possible, British Columbia is also ranked against other provinces for each indicator.

Since the arrow indicators show only the direction of change, the summary report gives no indication of the size of changes or their detailed pattern over time. This information is found in the graphs and text included in each section. More comprehensive data tables for each indicator are located in Appendix III.

Some indicators are not available as a time series; however, they provide information that better reveals the big picture with regard to the condition of high technology in British Columbia and in other parts of the country. Although included in the Quick Summary tables for reference purposes, these indicators do not have corresponding arrow symbols, but are instead marked with 'n/a', where comparisons over time or to other regions are not possible.

Educational Indicators

The educational sector provides inputs to high technology firms in three ways:

1. When individuals acquire skills and knowledge required for product development and production
2. During the commercialization of research performed in the educational sector
3. Funding and performance in research and development

The indicators listed below are measures of these roles. Many are presented on a per capita basis (expressed as rates per 100,000 population where per capita figures are quite small), as regional shares of national totals, or as a share of gross domestic product (GDP) to allow meaningful comparison with other provinces.

TABLE 2. QUICK SUMMARY OF INDICATORS FOR THE EDUCATION SECTOR

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	**Overall**
E-1: Percentage of population with a high school diploma	↑	↑	1 of 10
E-2: Percentage of population with post-secondary credentials	↑	↑	6 of 10
E-3: 13 year-old student achievement in science	↑	↑	3 of 10
13 year-old student achievement in math	→	↑	5 of 10
E-4: Total bachelor degrees awarded per 100,000	↑	↑	6 of 10
E-5: Total graduate degrees awarded per 100,000	↑	↑	6 of 10

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	**Overall**
E-6: Bachelor degrees awarded in engineering*	↑	↑	8 of 10
E-7: Bachelor degrees awarded in computer science*	↓	↑	3 of 10
E-8: Bachelor degrees awarded in physical & life science*	↑	↑	6 of 10
E-9: Percentage of households using the Internet	↑	↑	1 of 10
E-10: Income from technology licenses at U-15 universities†	↓	↑	3 of 15
E-11: U.S. patents issued to U-15 universities‡	↑	↑	3 of 7
E-12: University start-up companies formed‡	↓	↓	4 of 7
E-13: Higher education performance of R&D (HERD) to GDP	→	↓	7 of 10
E-14: Per capita grants and awards funded by CIHR	n/a	n/a	3 of 10
E-15: Per capita projects funded by CFI: Health	n/a	n/a	4 of 10
E-16: NSERC grant & scholarship expenditures	n/a	n/a	3 of 10
E-17: Canada Research Chairs	n/a	n/a	3 of 10

* The tables for these indicators are split into part (a) for Bachelor degrees and part (b) for Graduate degrees. Data for degree area of engineering include architecture, engineering and related technologies; data for degree area of computer science include mathematics, computer and information sciences.

† The ranking compares UBC to all U-15 universities.

‡ This indicator is a sum of the U-15 universities. The ranking is out of 7 because only seven provinces have U-15 universities.

British Columbia exhibits mixed results among educational indicators. The province has historically had strong educational attainment in the general population and data for the most recent reporting year shows that B.C. continues to have the highest percentage nation-wide of its population with a high school education. Despite the high proportion of high school graduates, the province lags other parts of the country in the post-secondary training in general and specifically among new graduates in some specific science and technology-related disciplines. B.C.'s ratio of higher education R&D to GDP is also somewhat low when compared to the nation as a whole. However, in terms of providing a hospitable landscape for innovation in scientific research, B.C. presents itself favourably.

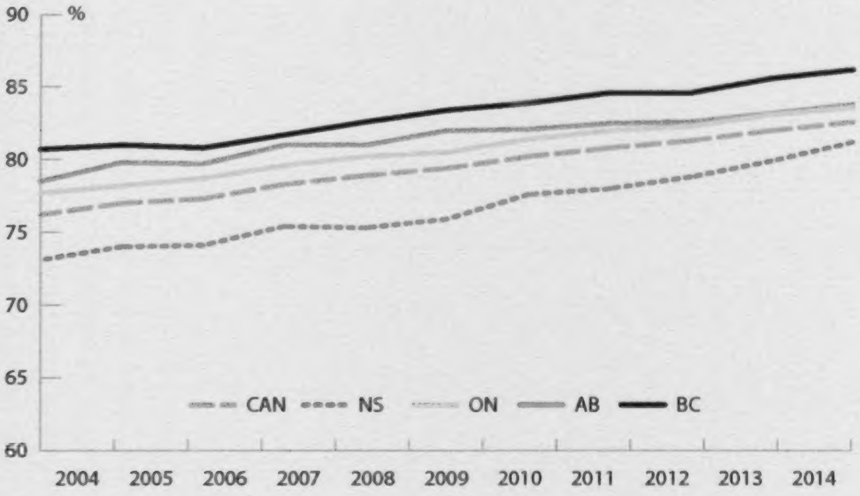
Educational Attainment

Higher levels of educational attainment enable high technology firms to draw from a broader, more highly-developed skill base. Higher levels of educational attainment also suggest a more knowledgeable population that is better able to understand and participate in the complexity of the high technology economy.

Similarly to the rest of Canada, the overall trend for B.C. continues to indicate that more and more British Columbians are completing high school and continuing their education to obtain post-secondary credentials. Four indicators of educational attainment—the percentage of the population aged 15 and older with a high school diploma, the percentage with post-secondary credentials, and the ratios of bachelor and graduate degrees awarded in the provinces—have all shown steady increases across Canada over the past decade.

At 86% in 2014, B.C. led the country with the highest percentage of its population having a high school diploma. The province has recorded the highest percentage since at least 1990, when 72% of its population aged 15 and over had graduated from high school, compared to the national average of 64%. However, the gap between B.C. and the other high technology provinces has gradually narrowed over the past decades, such that by 2014, the share of B.C.'s population with a high school diploma was only three percentage points higher than the Canadian average (83%).

INDICATOR E-1: PERCENTAGE OF THE POPULATION 15 YEARS AND OLDER WITH A HIGH SCHOOL DIPLOMA

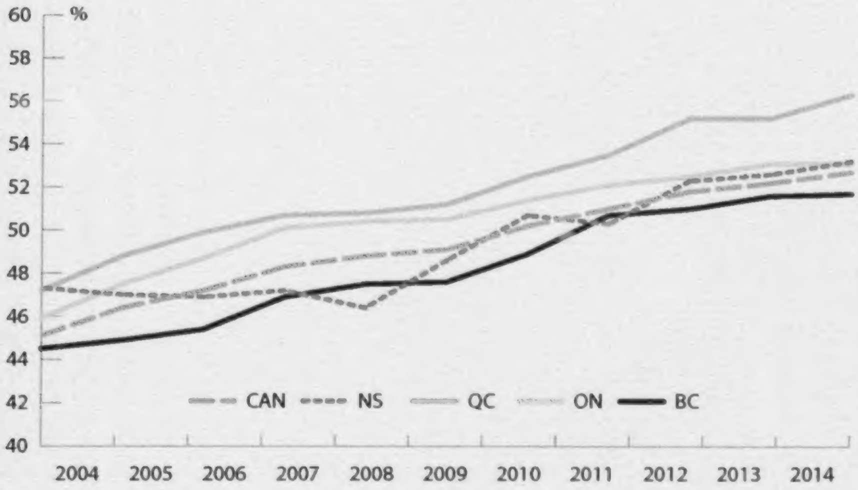


B.C. consistently leads the country in share of population with a high school diploma

Data source: Statistics Canada

Along with the rest of Canada, British Columbia continues to improve its post-secondary achievement and the gaps in proportion of population with post-secondary credentials among the provinces are relatively small. At 52% in 2014, B.C.'s rate was close to that of the national average (53%), while Quebec had the highest rate (56%), and Manitoba (44%) continued to score below the rest of the country.

INDICATOR E-2: PERCENTAGE OF THE POPULATION 15 YEARS AND OLDER WITH POST-SECONDARY CREDENTIALS



Data source: Statistics Canada

The percentage of B.C.'s population with post-secondary credentials continues to rise

Achievement on Canadian Standardized Tests

Standardized testing offers a comparable nation-wide measure for the demonstrated skills and knowledge of students of a given age. School programs differ from one part of the country to another, so making comparisons of results from these various programs is a complex task. However, young Canadians in different provinces and territories learn many similar skills in mathematics and science.[5]

For the purposes of the Pan-Canadian Assessment Program (PCAP), three competencies are associated with demonstrating scientific literacy: science inquiry, problem solving and decision making. Each of these competencies requires an understanding of the nature of science, applying relevant scientific knowledge, using skills and demonstrating attitudes as a reflection of scientific literacy.

Mathematics curricula within the various Canadian jurisdictions are similarly structured and based on a number of mathematical processes deemed essential to the effective study of the subject. These generally include problem solving, reasoning and justifying thinking, reflecting, using appropriate tools and computational strategies, making connections within and outside the discipline, representing and communicating mathematically.

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[5] The School Achievement Indicators Program (SAIP) was a cyclical program of pan-Canadian assessments of student achievement in mathematics, reading and writing, and science that was conducted by the Council of Ministers of Education, Canada (CMEC) between 1993 and 2004. The Pan-Canadian Assessment Program (PCAP) has since replaced SAIP, with its first assessment conducted in the spring of 2007 and the first report released in the spring of 2008. PCAP is administered every three years. The Pan-Canadian Assessment Program evaluations help to determine whether students across Canada reach similar levels of performance at about the same age. Students' total scores in each subject area are transformed onto a common scale, ranging from 0 to 1000, with the average for the pan-Canadian population set at 500. Since this is a new assessment program, 2007 and 2010 are the only reporting years for which data has been released to date. Also, the only age-group measured thus far is 13 year-old students. As a result, the scores reflect a mere snap-shot of the provincial standing in standardized tests. It remains to be seen, as the program progresses and further data are collected, how the provinces fare in terms of improvements or changes on a comparative and time-series basis.

In 2013 (the most recent year for which data are available), the mean scores in science for students in Alberta (521) and Ontario (511) were much higher than those obtained by Canadian students overall (500) and B.C. students ranked third (mean of 501) in the country. Thirteen year-old students in New Brunswick (469) and Manitoba (465) scored the lowest.

INDICATOR E-3 (A): CANADA-WIDE RANK OF 13 YEAR-OLD ACHIEVEMENT IN SCIENCE (MEAN SCORES)

	2010	2010 rank	2013	2013 rank
Alberta	515	1	521	1
Ontario	510	2	511	2
British Columbia	**497**	**3**	**501**	**3**
Newfoundland and Labrador	487	7	500	4
Nova Scotia	489	5	492	5
Prince Edward Island	493	4	491	6
Saskatchewan	488	6	486	7
Quebec	486	9	485	8
New Brunswick	487	7	469	9
Manitoba	486	9	465	10
Canada	500	n/a	500	n/a

Data source: Council of Ministers of Education, Canada

Since 2013, students in Quebec ranked first among the nation's regions in achievement in mathematics, with a mean score of 527, followed by Ontario (512) and Alberta (502). British Columbian students ranked fifth in the country (489), 18 points below the Canadian mean (507), but still ahead of their counterparts in five other provinces.

INDICATOR E-3(B): CANADA-WIDE RANK OF 13 YEAR-OLD ACHIEVEMENT IN MATHEMATICS (MEAN SCORES)

	2010	2010 rank	2013	2013 rank
Quebec	515	1	527	1
Ontario	507	2	512	2
Alberta	495	3	502	3
Prince Edward Island	460	10	492	4
British Columbia	**481**	**4**	**489**	**5**
Saskatchewan	474	6	488	6
Nova Scotia	474	6	488	6
Newfoundland and Labrador	472	8	487	8
New Brunswick	478	5	480	9
Manitoba	468	9	471	10
Canada	500	n/a	507	n/a

Data source: Council of Ministers of Education, Canada

Degrees Awarded

In a healthy economy, local industry provides jobs and the community provides the workforce to sustain the growth of the economy. Jobs in the high technology industry require specialized skills training. The number of degrees awarded within a given population is directly indicative of the potential human resources available to the province. Focusing on the degrees awarded on a per capita basis provides some indication of the overall education level of the province and the ability of the high tech sector to use these educated individuals.[6]

The number of bachelor and graduate degrees awarded per capita is a direct indicator of the likely presence of skilled and educated professionals in a high technology economy.

Although the province has consistently remained lower than most provinces in terms of degrees granted per 100,000 persons, the actual number of undergraduate degrees awarded has generally been rising in B.C. over the past ten years. In 2013, the number of bachelor degrees awarded per 100,000 people in the province climbed 2.9% over 2012, pushing the province's ratio notably higher (613, up from 595 in 2012). B.C. also presents itself favourably in absolute terms, awarding the third highest number of degrees in the country. In 2013, the province's universities granted 23,913 undergraduate degrees, significantly more than in neighbouring Alberta (18,939).[7]

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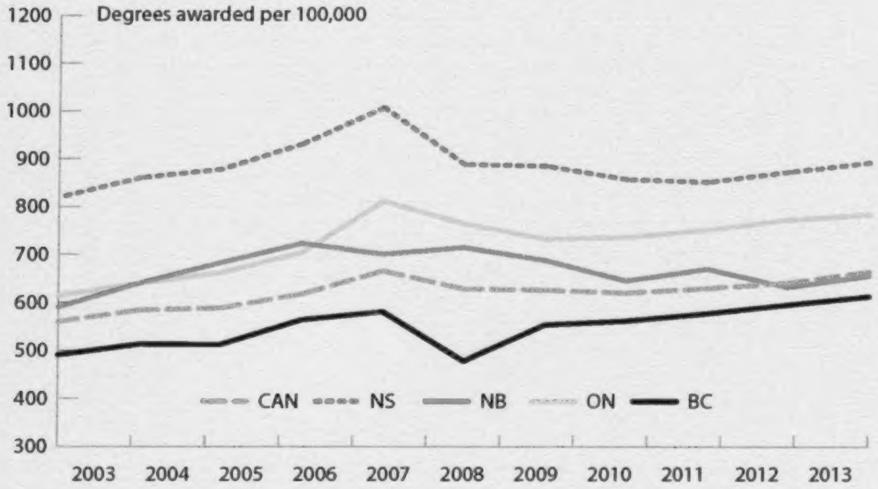
[6] It is equally important to acknowledge the number of degrees awarded in absolute numbers. This is an indicator of the size of the domestic labour pool available from which high technology firms can draw and, ultimately, whether a province has sufficient qualified people to support an industry. Engineers, computer and information scientists, and physical and life scientists are driving forces behind the high technology sector. They provide a highly specialized form of labour that is integral to research and development. Looking at how well B.C.'s universities are doing to meet workforce demand and the interest in technology-related careers provides some measure of the province's capacity to supply the high tech economy. The geographical availability of people trained in these fields lowers the search costs for firms that demand these skills. Furthermore, individuals educated in such fields are often engaged in the design and integration of new technologies into a firm's business model.

INDICATOR E-4: TOTAL BACHELOR DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER



Data source: Statistics Canada

In 2013, B.C. awarded more bachelor degrees per capita than Alberta and Quebec

Over the past decade, B.C. has also seen an upswing in the number of masters' and doctorate degrees granted, from 3,444 in 2003 to 6,456 in 2013. This solid increase has allowed B.C. to retain a third place ranking among the provinces, well ahead of Alberta (4,791 in 2013).

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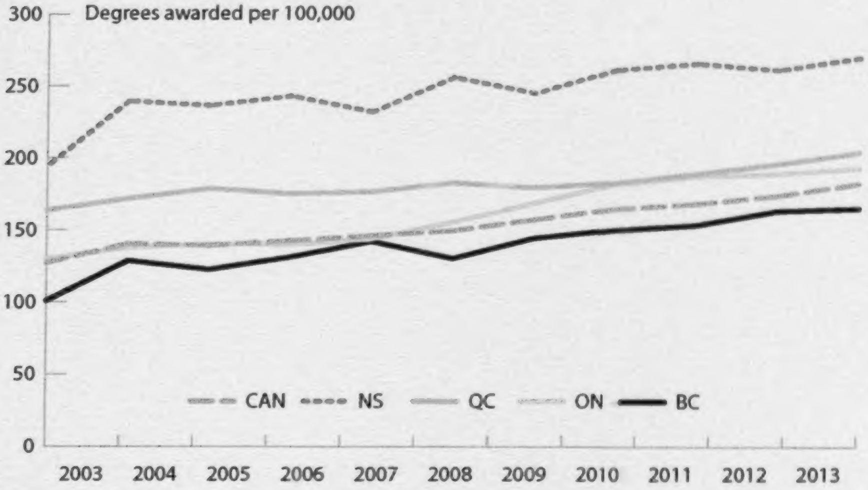
[7] It is important to note that measuring the number of degrees awarded by British Columbia's institutions does not only measure degrees awarded to British Columbians. As such, this is not a perfect measure of the overall educational level of the population of British Columbia. Given the fact that students travel to various locations to pursue a post-secondary education, it is extremely difficult to measure how many British Columbians acquire a specific degree in a given year, and it is not feasible to know whether they return to B.C. after completing a degree elsewhere. Nonetheless, much of the student-body who attend the province's universities are, in fact, permanent residents of B.C. and the number of degrees granted by B.C.'s institutions is a direct indicator of the expertise of the labour pool available to the high technology sector regardless of where a student comes from. The number of degrees granted in B.C. is also an indicator of the appeal of the province's higher-education institutes and how many students from other provinces and around the world choose to pursue an education in British Columbia. Using a per capita calculation is a better gauge of B.C.'s performance in degree granting relative to other provinces.

In terms of graduate degrees per capita, Nova Scotia (270 degrees per 100,000 persons in 2013) has continuously outpaced the rest of the country over the past ten years. B.C. institutions awarded 165 graduate degrees per 100,000 persons in 2013, slightly below the Canadian average (182).

INDICATOR E-5: TOTAL GRADUATE DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER

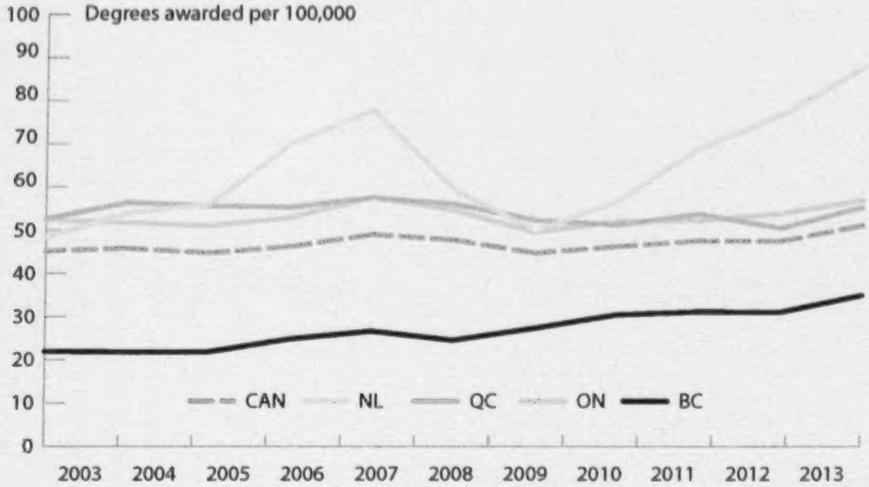


Data source: Statistics Canada

The number of graduate degrees awarded per capita in B.C. has climbed steadily over the past decade

Among specific disciplines, British Columbia has tended to lag other provinces in the undergraduate and graduate degrees awarded per year, and 2013 was no exception. In that year, on a per capita basis, the province ranked eighth in the number of undergraduate degrees awarded to students of architecture, engineering and related technologies, and seventh in number of graduate degrees. However, in actual numbers, the province has seen a noteworthy increase in graduates (of all levels) from this field over the past decade.

INDICATOR E-6: BACHELOR DEGREES AWARDED IN ARCHITECTURE, ENGINEERING AND RELATED TECHNOLOGIES PER 100,000 PERSONS AGED 15 AND OLDER

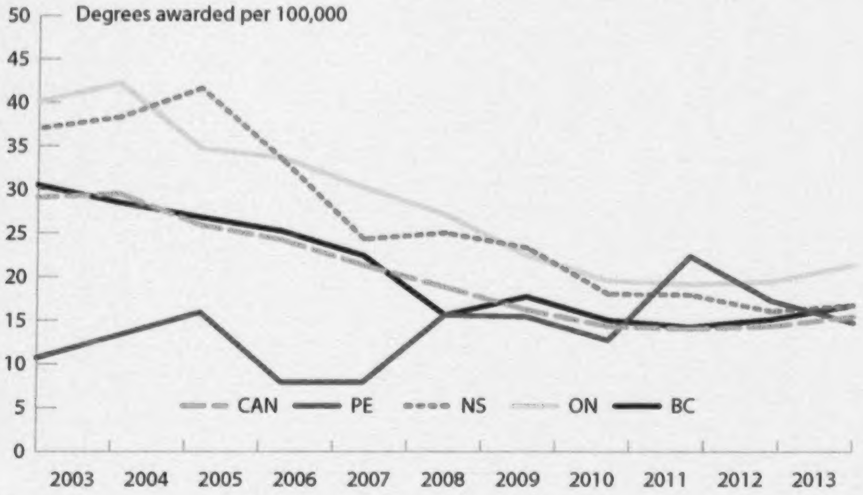


Data source: Statistics Canada

B.C. ranks below most provinces in architecture and engineering degrees awarded per capita

British Columbia fares much better in terms of the per capita ratio of undergraduate degrees awarded in the area of mathematics, computer and information science. B.C.'s ratio (17 degrees per 100,000 persons in 2013) ranks third among the provinces, above the Canadian average (15).

INDICATOR E-7: BACHELOR DEGREES AWARDED IN MATHEMATICS, COMPUTER AND INFORMATION SCIENCES PER 100,000 PERSONS AGED 15 YEARS AND OLDER



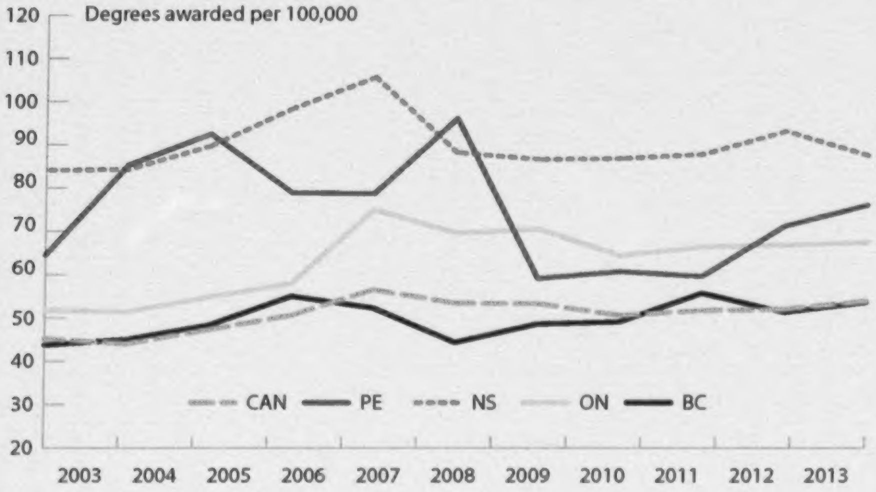
Data source: Statistics Canada

B.C. shows strength in bachelor degrees awarded per capita in math, computer and information sciences, ranking third among provinces

In terms of graduate degrees awarded per 100,000 persons in these disciplines, B.C. (10 per 100,000 persons) ranked fourth among the provinces in 2013.

At 54 per 100,000 persons in 2013, the number of B.C. graduates with a bachelor degree in the area of physical & life sciences & technologies was on par with the Canadian average (54), but ranked just sixth among the provinces.

INDICATOR E-8 BACHELOR DEGREES AWARDED IN PHYSICAL AND LIFE SCIENCES AND TECHNOLOGIES PER 100,000 PERSONS AGED 15 YEARS AND OLDER



Per capita degrees awarded annually in physical and life sciences and technologies fluctuate significantly in most provinces

Data source: Statistics Canada

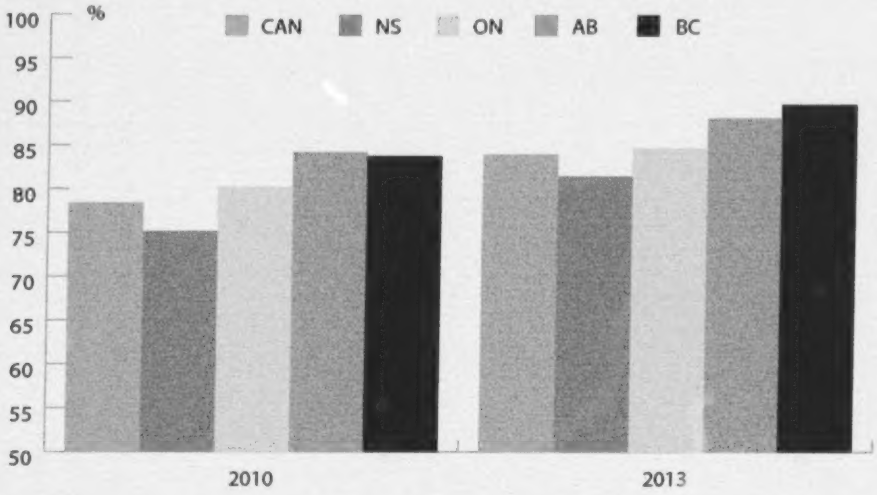
In 2013, British Columbia awarded 12 graduate level degrees per 100,000 persons in physical & life sciences & technologies, below the Canadian average (16 per 100,000 persons).

Access to Technology and Technology Adoption

Technology companies are attracted to locations where very high speed Internet is available and reliable. Target markets for technology companies tend to include locales where the population and businesses tend toward higher rates of technology adoption. Greater familiarity with technology within the population is likely to strengthen local market demand for high tech goods and services. Also, the acceptance of Internet and e-business technologies means small businesses participating in the application economy can reach a world-wide market, reduce the time and cost per transaction and eliminate much of the capital investment required in typical operations.

With increased globalization, and the rising popularity of new and innovative forms of communication, Canadians continue to make greater use of new information technologies at home and in the workplace. British Columbia leads the country in percentage of households with home Internet access. The province (90%) was well above the Canadian average (84%) in 2013.

INDICATOR E-9: PERCENTAGE OF HOUSEHOLDS WITH INTERNET ACCESS

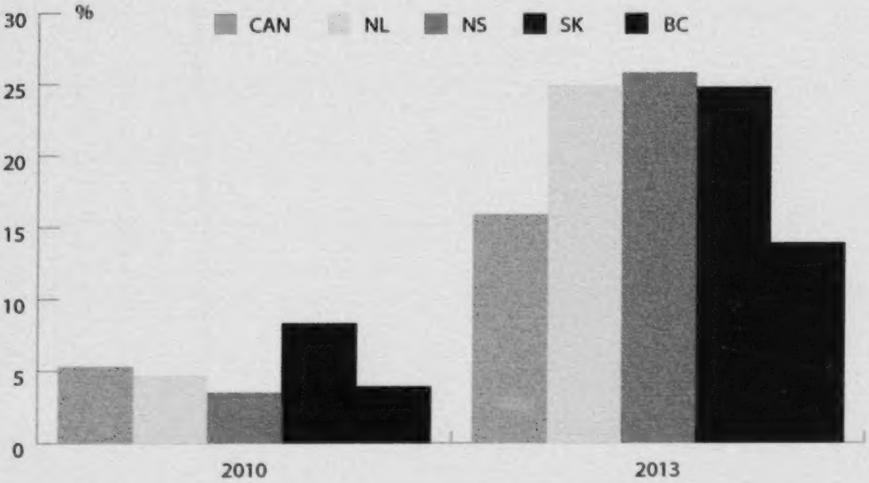


Data source: Statistics Canada

Alberta and B.C. have a larger share of households with Internet access than other provinces

On the other hand, Wi-Fi connections appear to be slightly less common in British Columbia (14% in 2013) than in Canada as a whole (16%). In 2013, wireless connectivity was most popular in Nova Scotia (26%).

PERCENTAGE OF HOUSEHOLDS WITH WI-FI INTERNET AT HOME

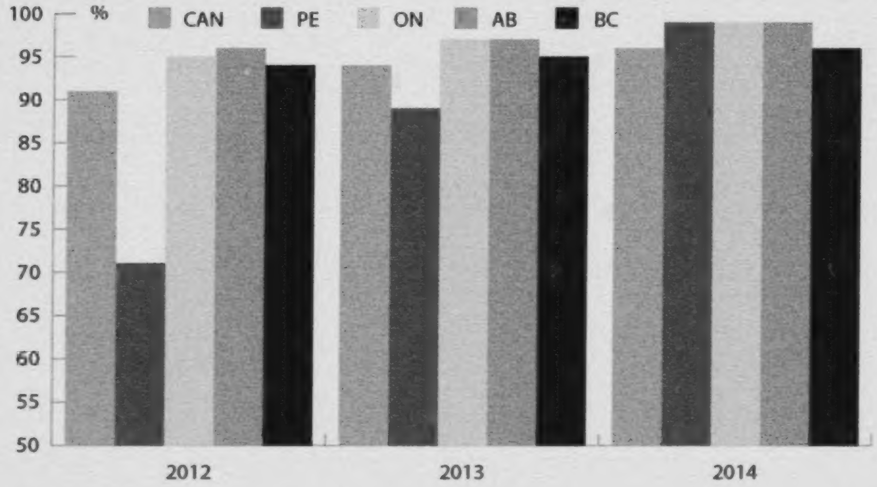


Data source: Statistics Canada

Wi-Fi Internet usage has surged in recent years

The availability of very high speed Internet (i.e., broadband Internet with download speeds of 5 Mbps or higher) is important to technology firms wanting to locate in an area and, until recently, B.C. was ahead of the curve with a higher percentage of households in the province having access to such technology, compared to the Canadian average. However, access has improved across the country, such that, in 2014, B.C. had the same proportion of households with access as the national average (96%). In 2014, Ontario, Alberta and Prince Edward Island were the only provinces with higher rates of access (each with 99%).

PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO BROADBAND INTERNET SERVICE WITH SPEEDS OF 5 MBPS OR HIGHER



Data source: Industry Canada and CRTC

Around 96% of B.C. households have access to broadband Internet service with speeds of 5 Mbps or higher

Technology Licensing

University faculty members are at the forefront of research and their work often involves partnerships with the private sector for either expertise or equipment. This collaboration has many outcomes, including grants, contribution agreements and negotiated contracts whereby the institution and the researcher share in the payoffs. One way of measuring successful collaboration and research productivity is through university technology licenses. These licenses allow the institution to 'spin-off' the commercial aspect of the researcher's discovery, which provides income. The number of U.S. patents issued to Canadian institutions and the creation of university start-up companies are also important indicators of future revenues.[8]

In the mid-1980s, universities across Canada began opening industry liaison offices. Primarily, these offices are responsible for negotiating research and development collaborations with businesses and public and private organizations. They also work to ensure the protection of research work developed at the university, especially that with commercial potential. These offices work with industry to spin-off technology developed at the university into successful start-up companies.

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[8] As a caution, one must keep in mind that a key purpose of universities is to conduct "primary" research—work that does not have any immediate commercial application. This work, when successful, becomes the foundation of further applied research and development. A good example is the Human Genome Project, which recently completed mapping out the genetic structure of the human being. Thus, licensing only provides a partial view of the importance of university research in the high tech sector.

Due in part to the volatile nature of innovative research, there has been a great deal of shuffling of ranks among Canada's major U-15[9] universities over the past decade. However, B.C.'s largest university has a history of pulling in more income from technology licensing than most other Canadian universities. With a gross income of nearly $5.7 million from technology licences in 2014, the University of British Columbia was ahead of all but two of the country's other top research universities in technology licensing. The University of Toronto ranked first, with $34.4 million in income from technology licensing, followed by the University of Saskatchewan ($15.0 million).

Looking at the income per license provides a picture of the commercial success of the research. In 2014, UBC was also a leader in the number of licenses yielding income (83), but was below several other universities in terms of the average gross income per technology license ($69,000).

UBC is not the only university in the province to show promise in technology licensing in recent years. Although not classified as U-15 universities, Simon Fraser University (SFU) and the University of Victoria (UVic) have also made strides. In 2014, SFU received a gross income of $251,000 from technology licenses, while UVic received $350,000. SFU yielded an average of $63,000 per technology license in 2014, slightly higher than UVic's average ($58,000).

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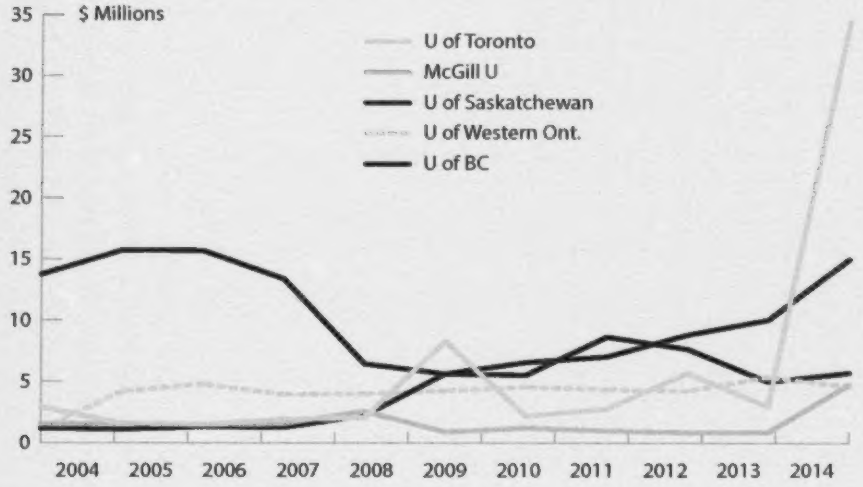
[9] 'U-15' Universities are the leading research universities in Canada and originally included the following institutions as part of the 'G-10' group: University of British Columbia (B.C.), University of Alberta (Alberta), University of Toronto (Ontario), Queens University (Ontario), University of Waterloo (Ontario), McMaster University (Ontario), University of Western Ontario (Ontario), Université de Montréal (Quebec), McGill University (Quebec), and Université Laval (Quebec). As of 2006, three more universities were added to the group, expanding it from 10 institutions to 13. The three universities added were: University of Calgary, Dalhousie University and University of Ottawa. In 2011, a further two institutions were added (University of Manitoba and University of Saskatchewan) and the group was renamed 'U-15.' The data for these and some other universities do not go back as far as the original ten. Note also that there are some other Canadian institutions that are highly active in technology research, but are not members of the U-15 group and, as such, are not included in this analysis.

INDICATOR E-10: GROSS INCOME FROM TECHNOLOGY LICENSES (IN MILLIONS OF $CDN) AT TOP-PERFORMING U-15 UNIVERSITIES



Licensing income at UBC is above most other leading Canadian institutions

Data source: Association of University Technology Managers

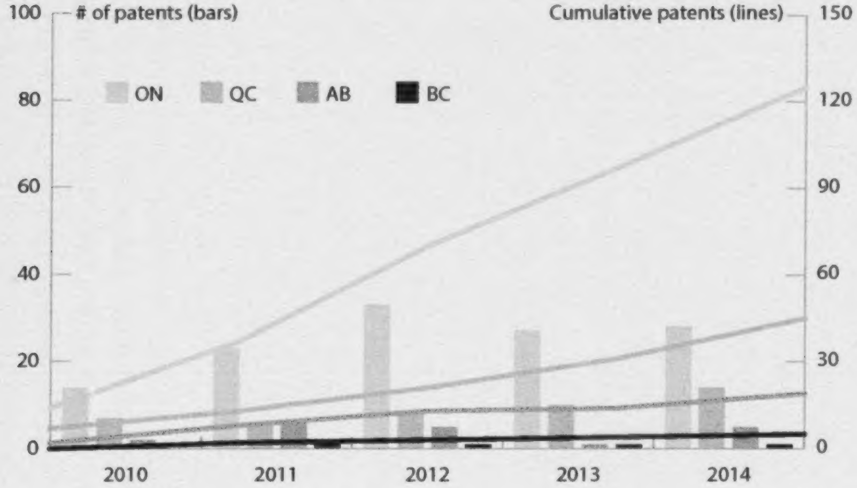
Over the past decade, British Columbia has consistently shown strong results in terms of the number of U.S. patents awarded to its top research institution (UBC). Acquiring a cumulative 96 patents between 2010 and 2014, B.C. ranked fourth among the provinces in the number of patents granted in the last five reporting years. Over the same period, Ontario (249) led the pack, followed by Quebec (224).

The number of patents issued in the province is even more impressive when one considers that B.C. is home to only one of Canada's U-15 universities, whereas Alberta has two and Quebec and Ontario each house several. Moreover, when one compares individual institutions, UBC (96) outranked all other institutions in cumulative patents awarded between 2010 and 2014. The next highest cumulative total was 91 for McGill University, followed by 78 for the University of Montréal.

Simon Fraser University and the University of Victoria added to the overall patents issued in B.C.'s higher education sector in 2014, receiving four and one patents, respectively.

Looking beyond national borders, British Columbia also holds up favourably. The 32 U.S. patents issued to B.C.'s top research university in 2014 matched the number granted to three American institutes: Dartmouth College, Indiana University Research and Technology Corporation and Michigan State University. Of the 155 U.S. universities included in the survey, only 52 were ranked higher than UBC, with 12 universities acquiring in excess of 100 patents in 2014. The University of California System[10] was awarded the most patents (428), followed by the Massachusetts Institute of Technology (304).

INDICATOR E-11: U.S. PATENTS ISSUED TO SELECTED INSTITUTIONS, ACTUAL AND CUMULATIVE[11]



Data source: Association of University Technology Managers

Between 2010 and 2014, UBC has ranked among the top few universities in the country in terms of patents issued

Academic discovery fuels the formation of new and innovative business. Start-up companies[12] are a major part of the innovation process as firms that are already established are often unwilling or unable to adopt new, high-risk technologies. It is often feared that new technologies will render existing investments and technologies obsolete. Start-up company activity is a significant component of the technology licensing process. In 2014, 64 new companies were formed nation-wide based on academic discovery.

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[10] Note that the University of California System is comprised of multiple campuses/institutions and, as such, should not be compared to individual institutions.

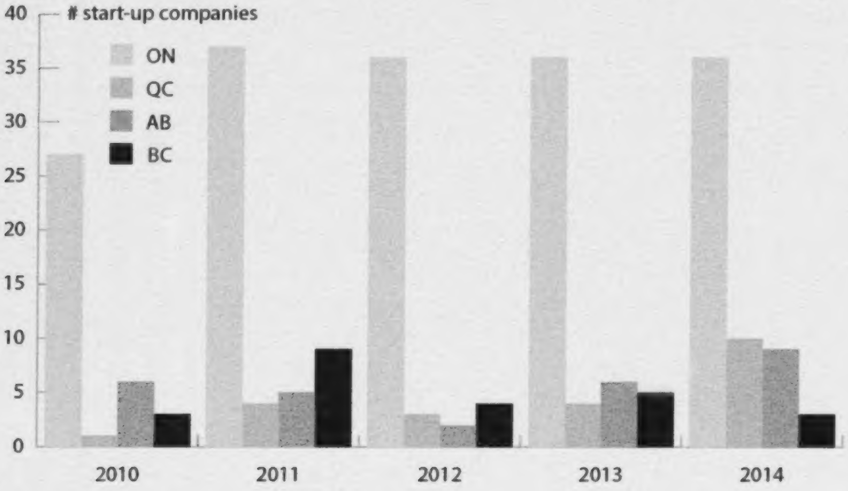
[11] Data includes all U-15 universities from each respective province.

[12] The Association of University Technology Managers' (AUTM) definition for start-up activity relates specifically to a company formed solely around the licensing of technology into a newly formed company. Some new ventures that stem from Canada's institutions are not captured by this definition but are perhaps equally as fundamental to the financial and economic development of the institution as well as the economic region.

In that same year, with three new start-up companies, the University of British Columbia was ranked seventh among Canada's top research institutions. The University of Toronto ranked first, with 20 start-ups, followed by the University of Waterloo, which formed 12 start-up companies. At the provincial level, B.C. ranked fourth in 2014, behind Ontario (36), Quebec (10) and Alberta (9).

In 2014, several American universities matched UBC in the number of start-ups formed, including the University of Notre Dame. In that same year, 66 U.S. institutions initiated fewer start-up companies than UBC.

INDICATOR E-12: UNIVERSITY START-UP COMPANIES FORMED BY SELECTED INSTITUTIONS, TOP FOUR PROVINCES[13]



Data source: Association of University Technology Managers

In 2014, B.C.'s single U-15 university formed three start-up companies, seventh among Canada's U-15 universities

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[13] Data includes all U-15 universities from each respective province.

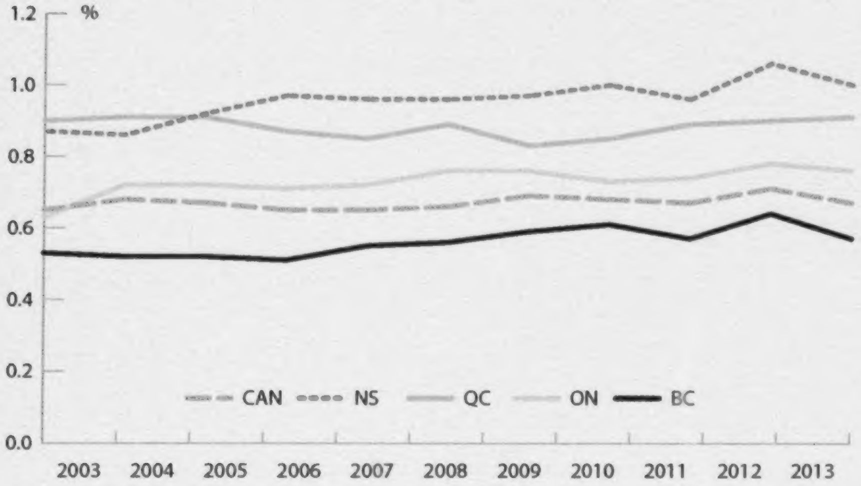
Performance of R&D by the Higher Education Sector

Research and development at universities contribute to high technology's impact on the economy in two ways. Published academic research is available to the public so that it can be used as a resource. Universities are also increasing partnerships with industry to bring the products and processes of R&D to market (see 'Technology Licensing'). The ratio of R&D performed by the higher education sector (HERD) to gross domestic product (GDP) is an indicator of the proportional investment in R&D by this sector relative to the size of the overall economy. A higher proportion of investment is likely to lead to higher rates of discovery.

In 2013 (the latest year for which data are available), the Canadian higher education sector performed more than $12.7 billion worth of R&D, down slightly from $13.0 billion in 2012. The total in 2013 amounted to 0.7% of Canada's GDP in that year, unchanged over the past decade (0.7% in 2003).

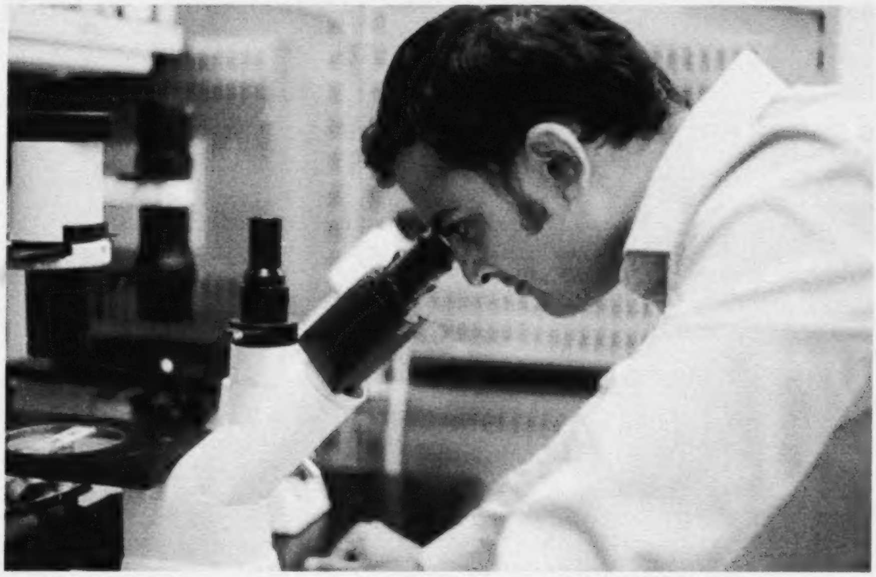
Among the provinces, the ratio of HERD to provincial GDP was highest in Nova Scotia (1.0%) and lowest in Saskatchewan (0.4%). B.C.'s ratio sat at just under 0.6% ($1.3 billion), ranking seventh.

INDICATOR E-13: RATIO OF HIGHER EDUCATION PERFORMANCE OF R&D TO GDP



Data source: Statistics Canada

Among the provinces, B.C. ranks seventh in ratio of higher education R&D to GDP



Research Funding

Funding for research in high technology industries not only supports current research within the economy, but also plays an integral role in attracting new researchers and encouraging a more innovative landscape. Funding is crucial in order to enhance Canada's reputation as a destination of choice for researchers and to make universities even more competitive in attracting prominent and competent researchers from around the world. Measurements of overall research funding for sectors pertaining to the scientific community and the distribution of the nation's Research Chairs are good indicators of the attractiveness of B.C.'s research environment.[14]

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[14] In 2000, the Government of Canada created a new permanent program to establish 2,000 research professorships—Canada Research Chairs (CRC)—in universities across the country. The CRC Program invests each year to assist universities in recruiting and retaining the most brilliant and promising scientists and researchers, helping these institutions become global leaders in the fields of advanced science and technology. Chair holders aim to achieve research excellence in engineering and the natural sciences, health sciences, humanities and social sciences. The Chairs Program imposes no restrictions on nominees with regard to nationality or country of residence, and as such, many foreign researchers are taking up chairs in Canada, including in British Columbia. The CRC Program offers eligible Canadian degree-granting institutions the opportunity to nominate outstanding researchers for senior professorships in areas that will further the institution's overall research priorities and enable them to maximize their contributions.

The CRC's Steering Committee includes several organizations that operate separately from the CRC, but which fund research undertaken by chair holders. These organizations are integral to the CRC program. The Canadian Institutes of Health Research (CIHR), the Canadian Foundation for Innovation (CFI), and the Natural Sciences and Engineering Research Council of Canada (NSERC) are among those groups that oversee and contribute to the CRC program.

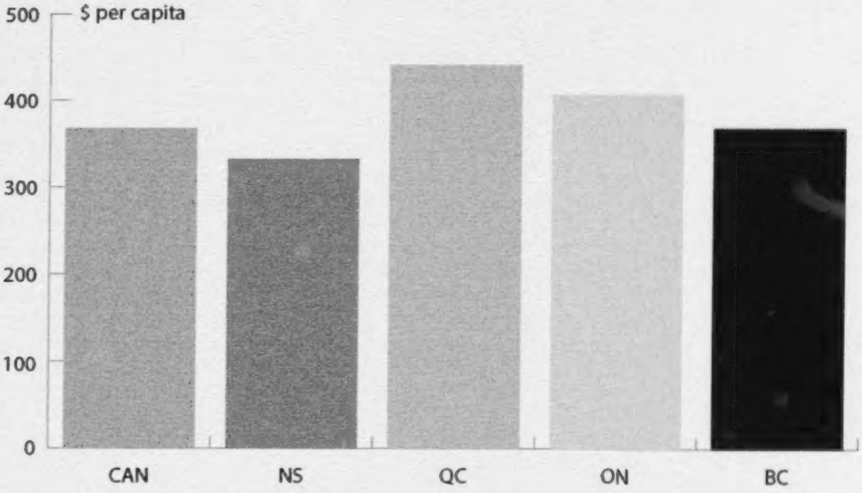
CIHR is the major federal agency responsible for funding health research in Canada; NSERC is the national instrument for making strategic investments in Canada's capability in science and technology; and CFI is an independent corporation established by the Government of Canada to strengthen national research capability through investments in research infrastructure in Canadian universities, colleges, hospitals and eligible not-for-profit organizations.

Measures of funding for research and skill development in the public and private sectors are direct indicators of the strength and sustainability of a province's research and development status. British Columbia's academic institutions have consistently received substantial funding from government and arm's length organizations for research conducted. Academic institutions in the province receive above average funding in some research areas, but below average in others.

Since 2000, up to and including the 2016/17 funding year, B.C.'s researchers have received an accumulation of over 6,100 grants and awards from the Canadian Institute of Health Research (CIHR). Combined, these awards amounted to a cumulative $1.7 billion in funding and 13% of overall national funding. Grants and awards received in British Columbia averaged $284,947 per award, slightly more than the national average of $283,516. Among the other provinces, the highest average award amounts were granted to institutions in Ontario ($306,051), followed by Quebec ($292,605).

On a per capita basis, Quebec ($441) receives the most funding, followed by Ontario ($407). With $368 per capita in funding, B.C. receives substantially more than neighbouring Alberta ($296).

INDICATOR E-14: PER CAPITA FUNDING OF CIHR GRANTS AND AWARDS, CUMULATIVE UP TO 2016/17[15]



Quebec has the highest per capita funding from CIHR grants and awards

Data source: Canadian Institute of Health Research

As of 2014/15, the Canadian Foundation for Innovation (CFI) had funded a cumulative 9,111 research projects among Canada's institutes, totalling over $5.4 billion. B.C. was the recipient of funding for 1,129 of these projects, receiving a total of over $715 million (13% of the national funding). The average funding per project was $633,611 in B.C., significantly higher than the national average ($594,187).

Per capita, B.C. ($154) ranked a solid fourth among the provinces.

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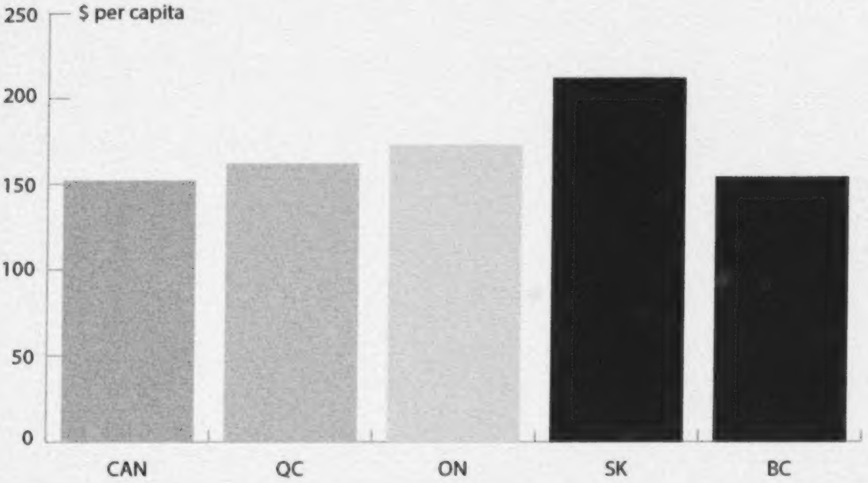
[15] Cumulative funding since program inception (2000) up to and including fiscal year 2016/17. Per capita totals are calculated using projected population data for 2016.

INDICATOR E-15: PER CAPITA CFI FUNDING FOR RESEARCH, CUMULATIVE TO 2014/15[16]



Data source: Canadian Foundation for Innovation

B.C. ranks fourth in the country in per capita CFI funding for research

Since its inception in 1991/92, up to and including the 2014/15 funding year, the National Sciences and Engineering Research Council of Canada (NSERC) recorded more than $17.1 billion in expenditures on grants and scholarships. B.C. received funding for 58,178 projects over this period, amounting to a cumulative $2.3 billion in funding and 13% of the national funding. Grants and awards received in British Columbia averaged $39,087 per award, notably higher than the national average of $35,618.

On a per capita basis, B.C. received $490, behind only first-ranked Nova Scotia ($593) and Saskatchewan ($522).

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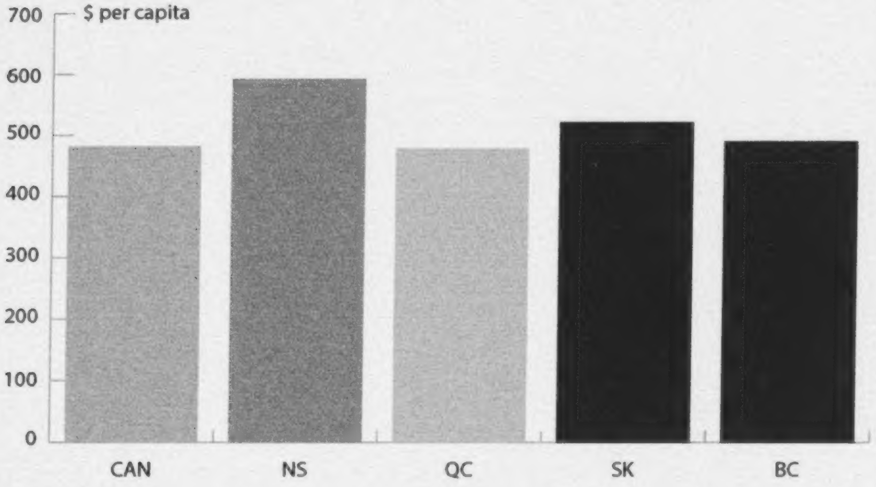
[16] Cumulative funding since program onset (1997) up to and including fiscal year 2014/15. Per capita totals are calculated using population data as at July 1st, 2014.

INDICATOR E-16: PER CAPITA NSERC-FUNDED GRANTS AND SCHOLARSHIPS, CUMULATIVE TO 2014/15

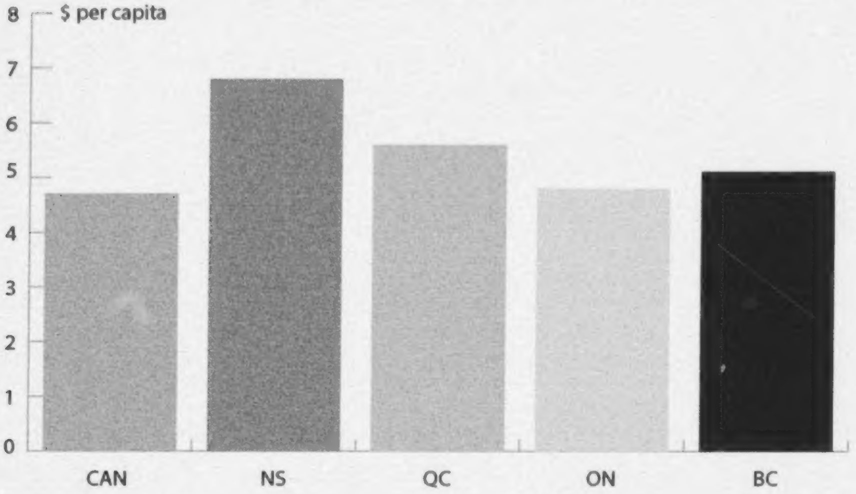


B.C. ranks third among the provinces in NSERC-funded grants and scholarships

Data source: The Natural Sciences and Engineering Research Council of Canada

Since the Canada Research Chairs (CRC) Program and its committees maintain high standards of excellence for appointees, the ability to fill the chairs is a solid indicator of the attractiveness of the province's research community. In 2015, of the 1,690 CRCs currently in place at Canadian universities, 241 were at B.C. institutions. This accounts for 14% of Canada's chairs, more than Atlantic Canada, Saskatchewan and Manitoba combined. Across the country, just 12% of chair holders (205) have been recruited from outside of Canada. Conversely, of B.C.'s Chairs, nearly a third (32%) is from outside of Canada. The province is also above the national average in the number of female chair holders, with 35% fitting this description, compared to 28% nation-wide.

INDICATOR E-17: CANADIAN RESEARCH CHAIRS PER CAPITA, 2015



B.C. ranks third among the provinces in number of active research chairs per capita

Data source: Canada Research Chairs Program

Business Indicators

This set of indicators concerns the stimulus to business formation and growth that comes from internal research and development (R&D), patenting and venture capital. It also measures results that are in part due to these stimuli, in the form of business entries and exits, high growth companies and the overall growth in the number of establishments.

British Columbia returns above average ratings compared to other provinces in some of the business stimulus indicators, while some show less promise.

TABLE 3: QUICK SUMMARY OF INDICATORS FOR THE BUSINESS SECTOR

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
B-1: Patents per 100,000 persons	→	↓	6 of 10
B-2: Patents granted as a % of applications, 3 year average	↑	↓	7 of 10
B-3: Entries to the high tech sector	→	↓	n/a
B-4: Exits from the high tech sector	→	↑	n/a
B-5: High growth high tech companies	→	↓	n/a
B-6: Venture capital investment, per capita	n/a	n/a	1 of 10
B-7: Venture capital investment: share of Canadian total	n/a	n/a	3 of 10
B-8: Business expenditure on R&D (BERD) to GDP	→	↑	3 of 10

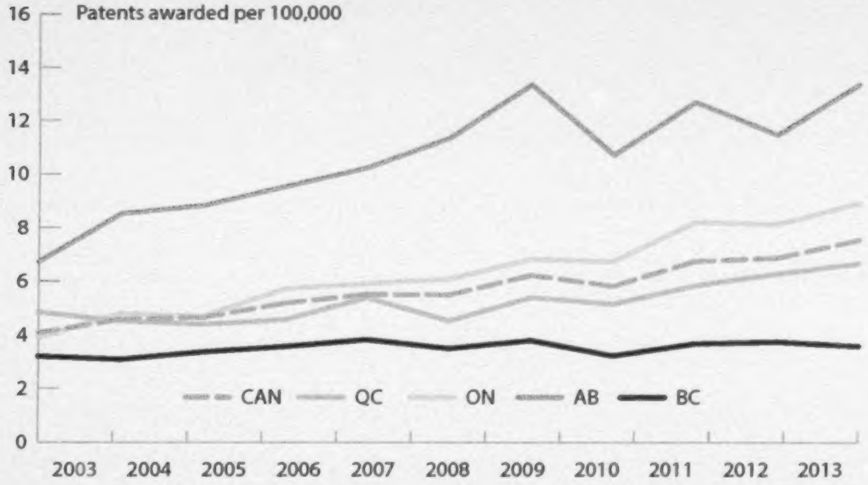
Patents and Applications

Patents are an indicator of the intellectual capital of innovation. According to the Canadian Intellectual Property Office, their mandate is to "grant patents which will result in the protection of the inventor and dissemination of technical information, and the encouragement of the creation, adoption, and exploitation of inventions." Patent applications may be rejected for a number of reasons, "including lack of novelty, obviousness, and lack of patentable subject matter." Patents are key resources for researchers, academics and businesses that need to stay shoulder-to-shoulder with developments in their fields.

Applications and granting of patents are indicators of the success of research and development, whether in the public or private sector. British Columbia has consistently lagged most of the other provinces in terms of patents awarded per 100,000 persons.

In 2013, B.C. applicants were awarded 164 patents, or 3.6 per 100,000 population. Since 2000, Alberta has maintained a first-place rank in patents granted per capita. In 2013, Alberta boasted 13.4 patent awards per 100,000 persons, well ahead any other province and nearly double the national average (7.5).

INDICATOR B-1: PATENTS AWARDED PER 100,000 POPULATION



Data source: Canadian Intellectual Property Office

Alberta outranks all other provinces in patents awarded per capita

Patent applications are rejected far more frequently than they are accepted. Between 2011 and 2013, a mere 51% of patent applications were accepted in Canada. The low acceptance rates across the country suggest that applicants generally begin the process of applying for a patent with little knowledge of the procedure(s) or of their chances of success. This pattern seems somewhat more common in British Columbia. In B.C., only 40% of applications resulted in the issuing of a patent in the 2011 to 2013 period.[17]

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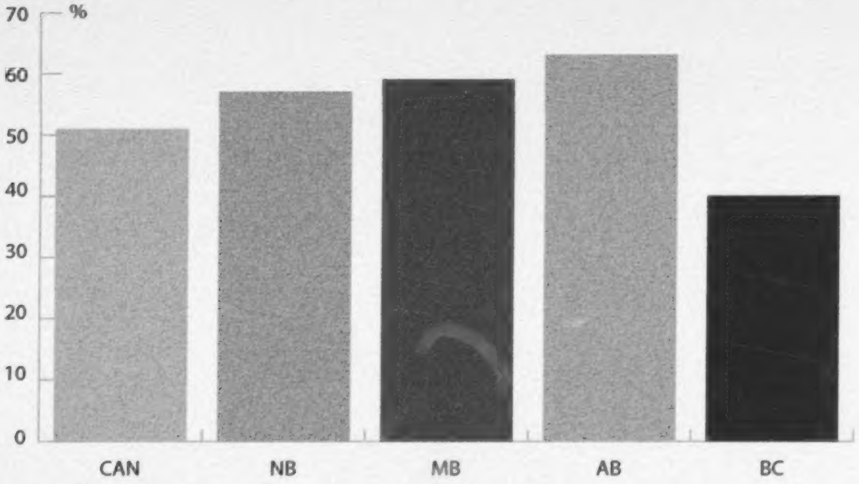
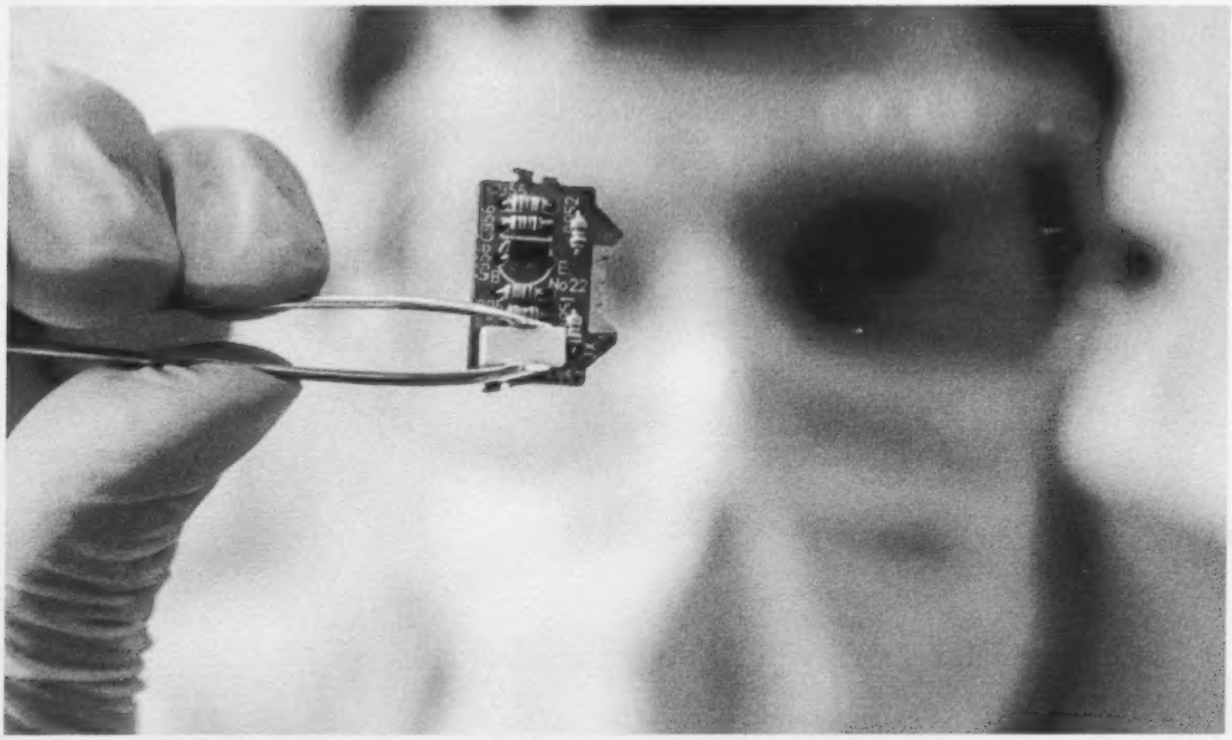
[17] Patent applications take an average of 25 months to be processed. Thus, to know how many applications filed in 2011 were accepted, one must look at patents granted in 2013. Figures presented here show patent grants in 2013 as a percent of applications in 2011.

INDICATOR B-2: PATENTS GRANTED AS A PERCENT OF PATENT APPLICATIONS (THREE-YEAR AVERAGE, 2011-2013)



Alberta also has the highest rate of acceptance for patent applications

Data source: Canadian Intellectual Property Office



Sector Dynamism: Entries and Exits[18]

A dynamic sector, characterized by a healthy mixture of large and small, old and new firms, is ideal for generating high levels of innovation. Large, established firms provide employment and earnings stability while small start-ups often provide market responsiveness, creativity and employment growth. The high technology labour force is combined with capital and ideas in the drive to generate new goods and services. A stagnant sector, characterized by several large firms and low levels of entry and exit, is not likely to generate high levels of innovation.

High tech sector entry rates indicate the percentage of firms currently in the sector that are new (i.e., did not exist in the previous year). Similarly, exit rates show how many firms left the high tech sector (or went out of business) as a percentage of the total number of high tech firms.[19]

Innovation is integral to the high tech sector. Along with an innovative spirit comes a somewhat volatile environment for businesses. One consequence of this is a high rate of business failures. On the other hand, small start-up firms in high tech are often at the leading edge of innovation, and are crucial to the ongoing strength of the sector.

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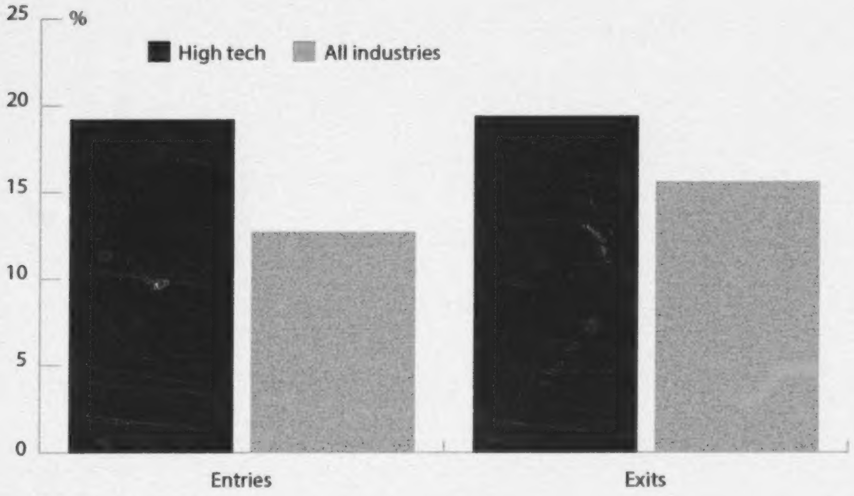
[18] Note that a comparison with other provinces for indicators B-3, B-4 and B-5 is not possible because of lack of accessibility to the necessary data.

[19] With the release of the 2008 data, Statistics Canada introduced the concept of a statistical "location" replacing statistical "establishment." The location, as a statistical unit, is defined as a producing unit at a single geographic location at which, or from which, economic activity is conducted and for which, at minimum, employment data are available. The change to business location counts was made because they provide a better measurement of actual business units. One consequence of this change is that location data prior to 2007 are not available. Note that only companies with employees are included in these data.

A good way to measure the strength of a specific sector is to compare it to the overall economy. The number of high technology firms grew at an average annual rate of 16.7% between 2009 and 2014, expanding by over 800 establishments to 9,720. By contrast, the number of firms in the B.C. economy as a whole had a significantly lower average annual growth rate (+12.0%). Similarly, the exit rate in the province's high tech sector (+15.1%) was also higher than the average business exit rate (+11.7%), suggesting that the innovative atmosphere of high tech businesses in the province tends to lead to volatility. High exit rates are not necessarily a sign of long-term trouble in the high tech sector, as this type of competitive environment is often a marker of high levels of innovation.

Entries into the high technology sector have exceeded exits in three of the last five reporting years, such that the overall number of high technology establishments has been growing fairly steadily. In 2014, entry rates (19.2%) were relatively on par with exit rates (19.4%), whereas the exit rates (15.6%) for businesses as a whole exceeded entry rates (12.7%) by nearly three percentage points. This could be an indication that the number of high technology establishments is growing at a rate exceeding that of the economy as a whole, although it is difficult to say for certain given methodological changes in the 2014 data.[20]

INDICATORS B-3 AND B-4: ENTRY AND EXIT RATES IN THE HIGH TECH SECTOR COMPARED TO ALL INDUSTRIES, 2014



Entry and exit rates are higher than average in the high tech sector

Data source: BC Stats

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[20] Note that the count of exits in 2014 is likely overstated as a result of a methodological change in the source data that resulted in a revision of the employer status of a number of businesses to the businesses without employees category. Given that only companies with employees are included in the calculation of entries and exits, this has likely boosted the number of exits. In reality, these companies should not have been included in the overall count of businesses with employees in the first place and, therefore, the counts of businesses with employees prior to 2014 were probably exaggerated, such that the exits represent a combination of actual exits plus a correction to the data. Counts of entries and high growth companies should be unaffected by the change.

High Growth Companies

High levels of growth are strong indicators of the success of a sector. An increasing number of high growth companies will create new jobs, new wealth and new government revenues.

BC Stats defines "high growth companies" as those which increase by at least two employment size categories in one year. For example, a firm that has one to four employees would be considered high growth if it expanded to have 10 to 19 employees over the course of one year. Similarly, a company with 100-149 workers expanding to 200-249 workers would also be considered high growth. There are 21 employment size categories, which provide a considerable amount of detail.[21]

The high technology sector is often thought to be a breeding ground for rapid-growth firms—small start-up companies that grow exponentially in short periods of time. Very few companies qualify as "high growth," but they can be slightly more common in the high tech sector than elsewhere. In recent years, however, high tech businesses in British Columbia have displayed patterns of high growth similar to that of the economy as a whole.

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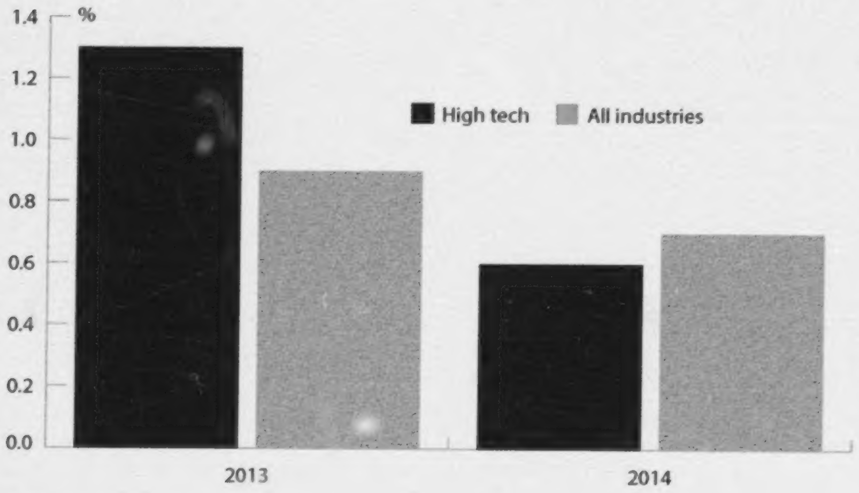
[21] It should be cautioned that, because the exact number of workers in a firm is not known, this measure will be somewhat imprecise. Further, because the last employment category is "5,000 and over," it is impossible for a large corporation to be classified as high growth. These data, then, principally apply to small and medium-sized establishments.

In 2014, 0.7% of all companies in B.C. showed rapid growth in number of employees. The share of high growth companies has remained fairly stable over the last five reporting years. The percentage of high growth companies in B.C.'s high technology sector (0.6% high growth in 2014) remained similar to that for B.C. businesses as a whole from 2009 to 2014. In actual numbers, there were close to 1,200 high growth businesses in the overall provincial economy in 2014 and about 60 for the high tech sector alone.

INDICATOR B-5: HIGH GROWTH COMPANIES FOR THE HIGH TECH SECTOR AND FOR ALL INDUSTRIES, 2013 AND 2014



Data source: BC Stats

In 2014, the high tech sector has a slightly smaller share of companies that are classified as high growth than the economy as a whole

Venture Capital Investment

Venture capitalists specialize in investing in high-risk company start-ups or expansions, providing the seed funds for projects that are often involved in the development of new products or processes. They take a portfolio approach, such that, while many high-risk investments may never be commercially viable, those that do succeed are expected to provide high returns to compensate for the total risk capital invested across the portfolio. Venture capital (VC) investment by province gives an indication of both the quality of ventures in a given province and the investors' assessment of the business climate. It also reflects the risk tolerance of investors in different regions and over time.[22]

In 2015, Canada's venture capital investment reached nearly $2.3 billion, with B.C. attracting $450 million of the nation's investment income. Quebec ($693 million) and Ontario ($939 million) were the only provinces to exceed B.C. in 2015.

Given the province's strong performance, its investment per capita topped any other province in 2015. B.C. boasted an average venture capital investment of $96 per 100,000 population, nearly four times that of Alberta ($25) and considerably higher than Ontario ($68). Quebec recorded the second highest per capita investment ratio in the country ($84) and was the only other province to exceed the national average ($64). Nova Scotia ($54) also achieved a notable per-capita venture capital investment ratio in 2015.[23]

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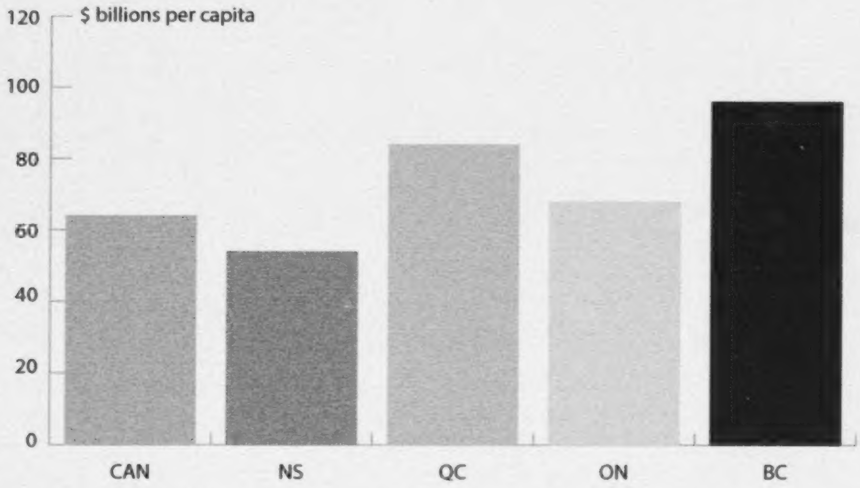
[22] It should be noted that the data-set used for this report includes investment from all sources and, as such, does not distinguish between foreign and domestic investment.

[23] Most of the other potential financing indicators, such as debt financing, are either available only for Canada with no provincial breakdown, or do not provide sufficient years of reporting to establish trends and are therefore not included in this report.

IINDICATOR B-6: CANADIAN VENTURE CAPITAL INVESTMENT BY PROVINCE OF INVESTMENT, 2015 ($ BILLION)

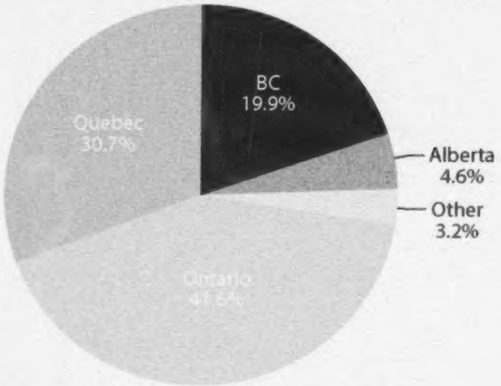


B.C. outranks all other provinces in venture capital investment per capita

Data source: Canadian Venture Capital Association

B.C. held a 20% share of the country's venture capital investment in 2015, a far greater portion than in any other province outside Canada's industrial core. The share of investment in B.C. exceeded that of Alberta, Saskatchewan, Manitoba, and Atlantic Canada combined. Ontario (42%) retained the largest share of the country's venture capital investment, followed by Quebec (31%).

INDICATOR B-7: SHARE OF CANADIAN VENTURE CAPITAL INVESTMENT, 2015



B.C. boasts a larger share of Canadian venture capital investment than the Prairie Provinces and Atlantic Canada combined

Data source: Canadian Venture Capital Association

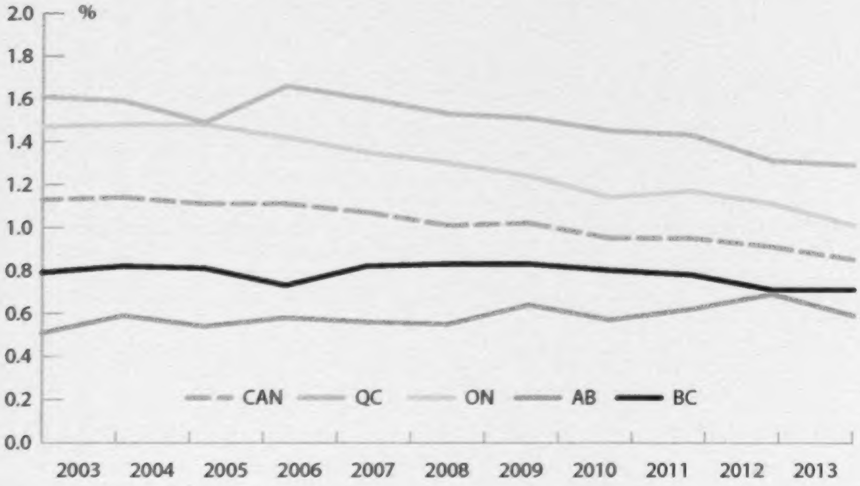
Performance of R&D by the Business Sector

Research and development (R&D) provides the potential for innovation and new discoveries in the form of new products, services or processes that eventually enhance productivity. In this way, R&D is viewed as an investment in future production of the economy. The ratio of R&D performed by business (BERD) to GDP is an indicator of the proportional investment in R&D by the business sector relative to the size of the overall economy. It is assumed that a higher proportion is likely to lead to higher rates of discovery and increased commercialization activity.

Canada's business sector performed $16.0 billion worth of R&D in 2013 (the latest year for which data are available), amounting to about 0.9% of the nation's GDP in that year. The ratio of business R&D (BERD) to provincial GDP has historically been much higher in Quebec and Ontario than in the rest of the country. Although B.C. (0.7%) was well above most provinces in R&D to provincial GDP in 2013, it was far exceeded by Ontario (1.0%) and Quebec (1.3%). Until the end of the last decade, the ratios of BERD to GDP in B.C. and Alberta were quite comparable. However, in more recent years, R&D has lagged in Alberta, resulting in its falling behind British Columbia.

In 2013, Ontario and Quebec made up a combined 73% of business R&D in Canada. At the same time, B.C.'s share was 10%, while12% was attributable to Alberta.

INDICATOR B-8: RATIO OF BUSINESS PERFORMANCE OF R&D TO GDP



Quebec's ratio of business performance of R&D to GDP remains well above that of the other provinces

Data source: Statistics Canada

Government Indicators

The government sector impacts the high technology environment by funding and directly performing R&D, and by providing a regulatory, tax and infrastructure environment for the private sector to operate within.

In general, the tax regime varies substantially across provinces. For example, B.C. has a considerably lower corporate income tax rate than other provinces, while Manitoba has no small business tax.

This section also includes a summary of gross expenditures on R&D (GERD) in British Columbia. This consists of R&D performed by business and higher education in addition to federal and provincial governments. Generally, direct performance of R&D by government has lagged in B.C. compared to other provinces.

TABLE 4: QUICK SUMMARY OF INDICATORS FOR THE GOVERNMENT SECTOR

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
G-1: Personal tax index individual with $80,000 income	↓	↑	1 of 10
G-2: Small business tax rate	→	→	3 of 10
G-3: Corporate income tax rate	↓	→	2 of 10
G-4: Government expenditure on R&D (GOVERD) to GDP	→	↑	10 of 10
G-5: Gross expenditure on R&D (GERD) to GDP	→	↓	4 of 10

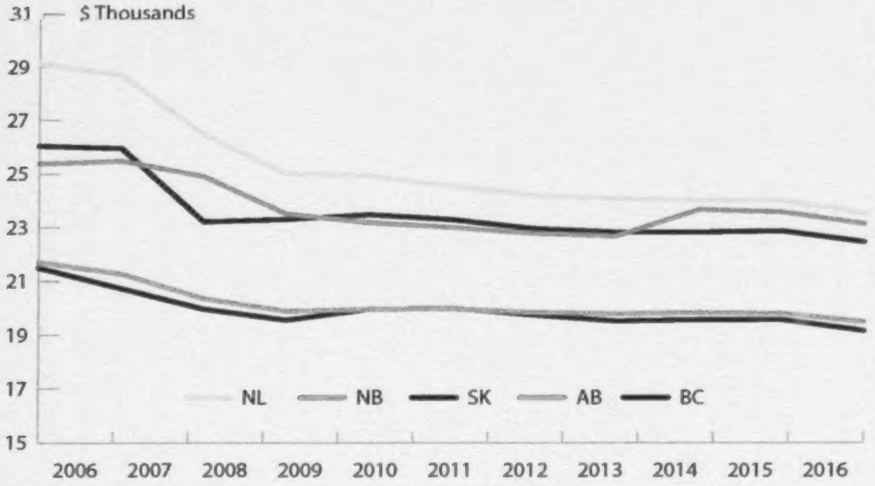
Tax Rates: Individual and Corporate

High technology companies are highly mobile because much of the input to their production is derived from human capital. As a result, high technology companies are often free to seek an ideal location to establish operations. Lower levels of taxation are thought to attract investment and encourage a skilled labour pool. On the other hand, desirable amenities that may play an equal role in attracting skilled workers, such as quality of life, social programs, environmental standards and regulated working conditions may result in higher levels of taxation.

One significant policy area over which the government has complete control is tax rates. Lower levels of taxation are thought to attract investment and a skilled workforce—both essential to the high technology sector. Also, a better quality of life associated with regulation of working conditions, environmental standards and universal social programs are thought to be appealing to high technology workers. Such amenities tend to result in higher levels of taxation.

In recent history, British Columbia taxation levels for single (unattached) individuals earning $80,000 or more a year have declined steadily and the province has had the lowest rate in Canada for most of the last decade. The total taxes levied to high income earners in the province averaged $19,153 (or 24%) in 2016, the lowest level in the nation. This rate was down 2.1% from 2015 and reflects a considerable decline since 2006, when taxes amounted to $21,497 (27%). The long-term decrease in personal taxes on high-income earners has not been unique to British Columbia; taxation rates have also exhibited a downward trend in most other provinces. As average taxes paid by high-income earners in B.C. continue to fall, the province's rates are well below most other parts of the country. However, taxes paid in neighbouring Alberta (which declined 1.6% to $19,487 between 2015 and 2016) remain close to those paid in British Columbia.

INDICATOR G-1: AVERAGE OF ALL TAXES PAID BY UNATTACHED INDIVIDUALS EARNING $80,000 PER YEAR ($ '000)

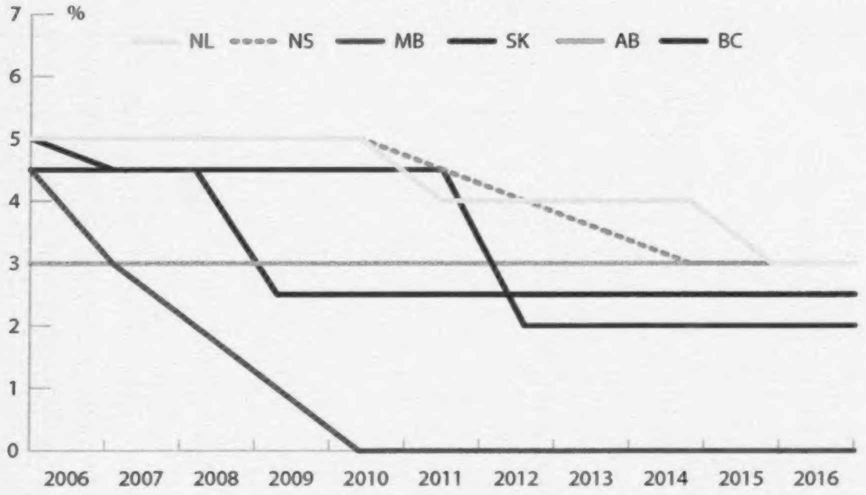


Data source: B.C. Ministry of Finance

Over the past decade, B.C. and Alberta have had nearly identical taxation levels for high-income earners

British Columbia's small business tax rate paints a similar picture to that of high income individuals. In 2000 and 2001, B.C. boasted the lowest small business tax rate in the country. In the years that followed, some of the Atlantic Provinces dropped rates substantially, as did Alberta and Manitoba. In 2016, the rate in B.C. (2.5%) was among the lowest in the country, resting just below that of Alberta (3.0%) and just above that of Saskatchewan (2.0%). Meanwhile, Quebec's tax rate has hovered around eight or nine percent (8.0% in 2016) for the past decade, while Manitoba has succeeded in eliminating the small business tax altogether.

INDICATOR G-2: SMALL BUSINESS TAX RATE

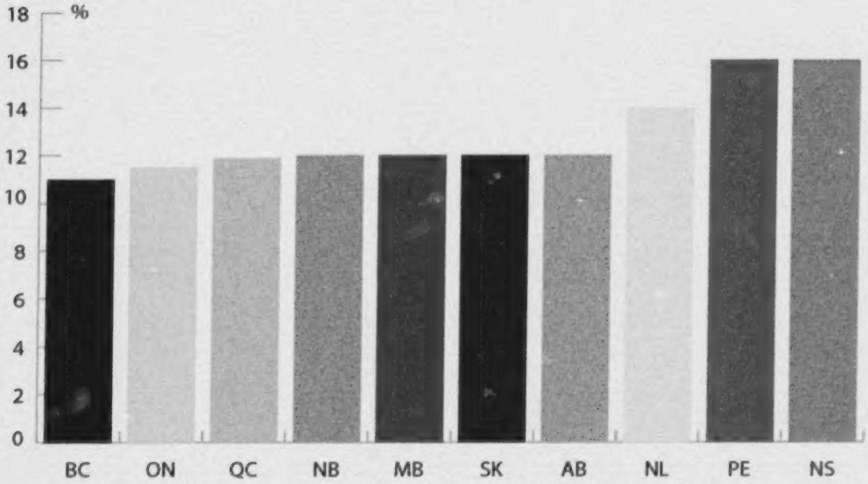


Data source: B.C. Ministry of Finance

B.C.'s small business tax rate is among the lowest in the country

In 2016, British Columbia's general corporate income tax rate (11.0%) is lower than every other province. Prior to 2008, Quebec had the lowest rate, but, in 2008, it raised its rate from 9.9% to 11.4% and bumped it up again in 2010. In 2016, P.E.I and Nova Scotia (each 16.0%) have the highest corporate tax rates in the nation.

INDICATOR G-3: GENERAL CORPORATE INCOME TAX RATE IN 2016



Data source: B.C. Ministry of Finance

B.C. has the lowest corporate tax rate in Canada

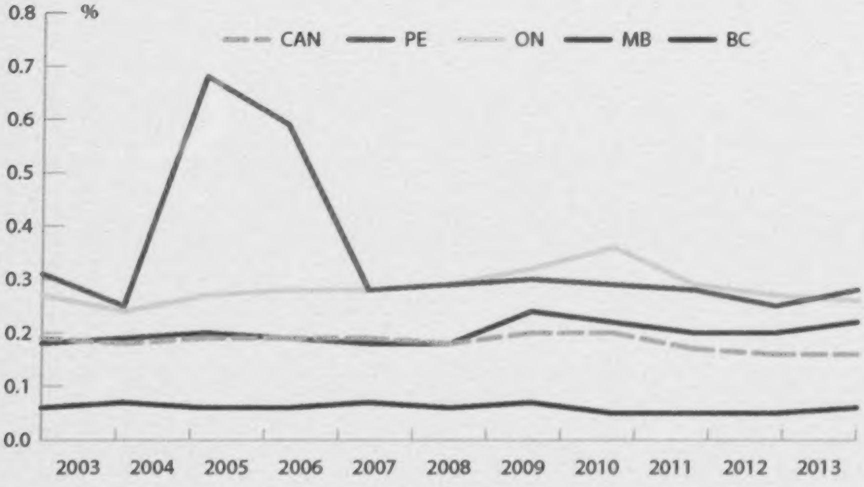
Performance of R&D by the Government Sector

Government tends to fund much more R&D than it undertakes directly. However, in some fields, governments do maintain research personnel in order to provide independent testing of products, processes and practices. The purpose of most internal government research is not necessarily focused on innovation, but serves a review function. Significant innovations developed by government researchers are often spun-off to the private sector. The ratio of government R&D to GDP is an indicator of the proportional investment in R&D by the government sector relative to the size of the overall economy.

The combined federal and provincial government sector in Canada performed $3.1 billion worth of R&D in 2013 (the latest year for which data are available), up substantially (+5.6%) from 2012. This accounted for approximately 0.16% of Canada's GDP in that year.

Across the country, Ontario has historically maintained by far the highest ratio of government R&D to GDP. With a ratio of 0.26% in 2013, Ontario lost its position to P.E.I. (0.28%). Meanwhile, B.C. has consistently ranked last among the provinces. This held true in 2013, as its ratio crept up 0.01 percentage points to 0.06%.

INDICATOR G-4: RATIO OF COMBINED FEDERAL AND PROVINCIAL PERFORMANCE OF R&D TO GDP



Data source: Statistics Canada

Ontario and P.E.I. have historically had the highest ratio of government R&D to GDP

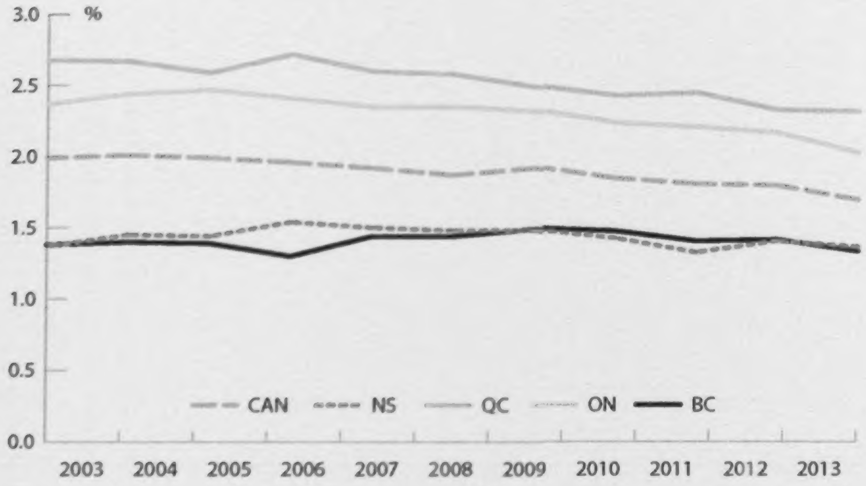
Gross Expenditure on R&D

The overall ratio of total R&D effort to the overall economy, also known as the GERD ratio, is a measure of how much a jurisdiction is willing to sacrifice current consumption for potential increased future capacity. The changing structure of the ratio (the relative size of the component investments by the government, business and higher education sectors) over time is a measure of the shifting importance different sectors place on the performance of R&D.

Gross Canadian expenditure on research and development (GERD) was nearly $32.0 billion in 2013, a 2.2 % decrease over the previous year. This amounted to 1.7% of Canada's GDP in that year.

The GERD to GDP ratios for Quebec and Ontario have been the highest over the last decade and 2013 was no exception. Between 2012 and 2013, Ontario's rate slipped from 2.2% to 2.0%, while Quebec's remained unchanged, at 2.3%. In 2013, Saskatchewan's ratio was lowest among the provinces at 0.9%, while B.C.'s was considerably higher (1.4%).

INDICATOR G-5: RATIO OF TOTAL EXPENDITURE ON R&D TO GDP

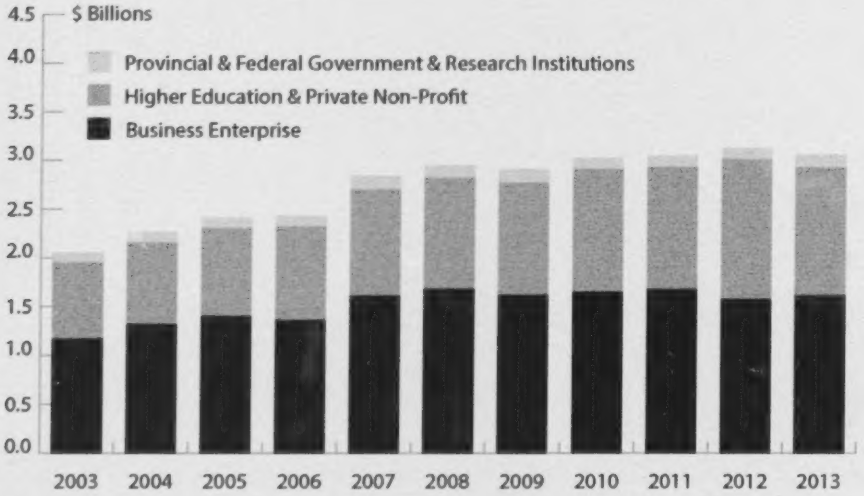


Data source: Statistics Canada

B.C.'s ratio of total expenditure on R&D to GDP has remained relatively unchanged over the past decade

The largest single performer of R&D in B.C. is the business sector. Business performed 53% of R&D in the province in 2013, while higher education comprised a comparable portion (nearly 43%). Together, the federal and provincial government performed just five percent of B.C.'s R&D effort. This is also a common trend among other provinces. For example, in Alberta, the business sector accounted for 55% of performed R&D and higher education made up 37%. However, government performed a much higher share of research in that province (8%) than in British Columbia.

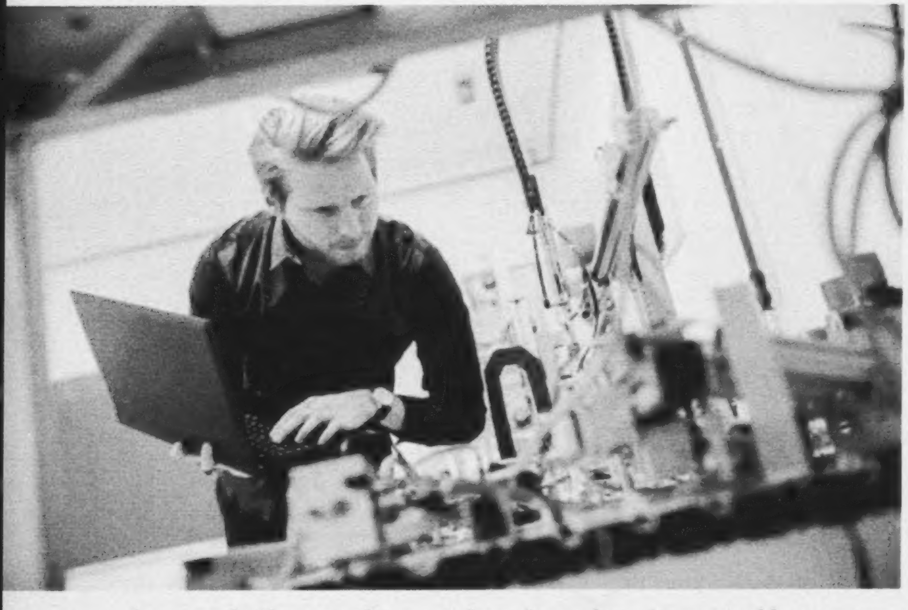
SHARE OF R&D PERFORMANCE IN B.C., BY SECTOR



Data source: Statistics Canada

The business sector is consistently the leading performer of R&D in B.C.

External Indicators



The economy in British Columbia is highly dependent on trade with other provinces and foreign countries, both as a source of goods and services used in the province and as markets for its products. As they do in the economy as a whole, trade relationships play an integral role in the high tech sector. Since imported components are often used to produce high tech products, imports of high technology goods can be an indicator of future production. B.C.'s high tech imports have been volatile over the past decade and are impacted by currency exchange rates and the health of the overall economic climate.

Along with the nation as a whole, British Columbia also benefits from a large number of well-trained and educated immigrants. Migration from other Canadian provinces is also a substantive source of educated and trained workers to B.C.

TABLE 5: QUICK SUMMARY OF INDICATORS FOR THE EXTERNAL SECTOR

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
X-1: Percentage of immigrants with 16+ years of education	→	↑	8 of 10
X-2: Median years of schooling of immigrants		↑	6 of 10
X-3: Net inter-provincial migration	→	↑	2 of 10
X-4: High technology imports	↑	↑	n/a

Educational Background of Immigrants

The economic effects of immigration depend on the skills and resources immigrants bring with them. Two specific indicators of the educational attainment of immigrants are the percentage of immigrants aged 25 years and older with 16 or more years of education (sufficient levels to obtain a university degree in Canada) and the median years of education of immigrants aged 25 years and older at landing. An influx of highly educated immigrants increases the supply of skilled labour and can provide a significant boost to high technology companies. Immigrants also offset the loss of skilled workers who move to other provinces or out of Canada.

Over the past several years, British Columbia has experienced high levels of immigration, and in 2014, this trend continued.[24] As in other parts of the country, immigrants to the province tend to be well educated.

B.C. has certainly been a central destination for skilled immigrants. Over the past decade (from 2004 to 2014), the province received nearly 125,000 immigrants with 16 or more years of education—more than any other province other than Quebec and Ontario. One reason for B.C.'s success in attracting these immigrants is that Asia has become the top origin for immigrants to Canada and British Columbia's relative proximity to Asia compared to the rest of Canada makes it a prime destination.

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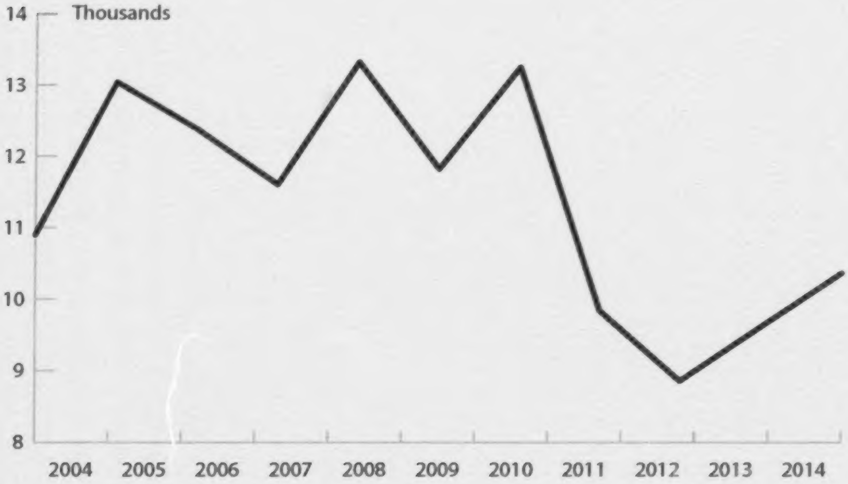
[24] For detailed immigration data, see the BC Stats website: http://www.bcstats.gov.bc.ca.

'NDICATOR X-1: ADULT IMMIGRANTS TO B.C. WITH 16 OR MORE YEARS OF SCHOOLING AT TIME OF LANDING



Data source: Citizenship and Immigration Canada

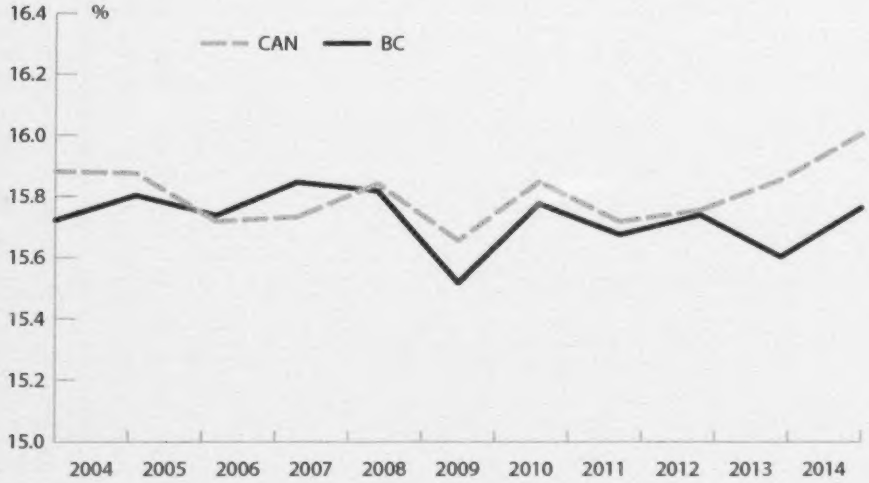
The number of immigrants to B.C. with 16 or more years of schooling has begun to rebound

The number of immigrants to Canada with 16 years or more of education has dropped off in most provinces after climbing to a peak in 2010. British Columbia was no exception, as 21.8% fewer immigrants in this category immigrated to the province in 2014 compared to 2010. However, the province did see an increased influx (+7.8%) of immigrants with high levels of education in 2014 compared to 2013.

In 2014, the median education level of adult immigrants (aged 25 years and older at landing) to B.C. was 15.8 years of schooling, slightly under that of top-ranking Quebec (16.5 years), but relatively on par with that the national average (16.0 years).

The median years of schooling of immigrants aged 25 years and older has increased notably since the 1990s, but appears to have reached a plateau in recent years. From 2004 to 2014, the Canadian median has hovered at approximately 16.0 and for B.C., the median years of schooling have also remained stable (between 15.5 and 15.8 years).

INDICATOR X-2: MEDIAN YEARS OF SCHOOLING AMONG IMMIGRANTS AGED 25 YEARS AND OLDER



Data source: Citizenship and Immigration Canada

Immigrants to B.C. and to Canada as a whole have a similar median number of years of schooling

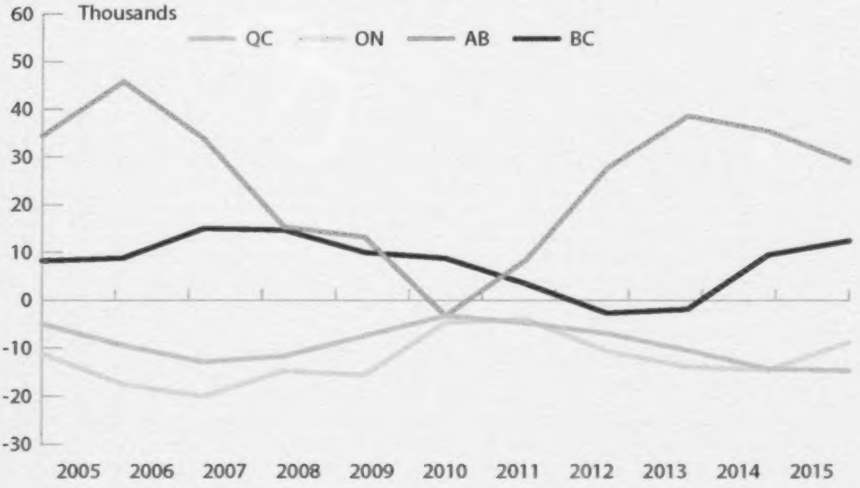
Inter-provincial Migration

Canadian workers are much freer to move within the borders of the country than they are internationally. In aggregate, population movement between provinces is a general indicator of perceived economic opportunity and general attractiveness. Individuals and families often relocate for economic reasons. In this way, this indicator points to the overall perception of the strength of provincial economies and the labour pool from which employers can draw.

The pattern of inter-provincial migration in Canada is substantially dictated by people seeking better economic opportunities. With the exception of 2011 and 2012, B.C. has seen a steady in-migration from other provinces. In 2014, the province experienced a net inflow of over 12,400 migrants, marking the second consecutive year of net inter-provincial gains.

Over the last decade, B.C. and Alberta were the only provinces to experience an annual net in-migration. Alberta gained an average of nearly 25,300 between 2004 and 2014, while over the same period, B.C. welcomed an average of over 7,800 residents from other provinces per year.[25]

INDICATOR X-3: NET INTER-PROVINCIAL MIGRATION



Data source: Statistics Canada

B.C. and Alberta were the only provinces to see a net inflow of people from other provinces in 2014 and 2015

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[25] Dates for this indicator are in Census years, such that '2014' refers to the July 1st, 2013 to June 30th, 2014 period.

High Technology Imports

Although a heavy reliance on imports can create a negative trade balance (the difference between the value of goods exported and the value imported), imports of high technology goods are often essential to supply domestic supply chains that turn imports into future exports. For instance, without state-of-the-art telecommunications, the high technology sector as a whole would struggle. Similarly, purchases of computer integrated manufacturing technology would displace future imports of other goods, whether high technology or low technology, and could generate goods for export. More importantly, high technology imports are a key driver in productivity growth and enhancing competitiveness.[26]

Imports of high technology goods are crucial to the success of B.C.'s high technology sector.[27] B.C. imports of high technology products were valued at $6.1 billion in 2014 (the most recent year for which data are available). Computers and telecommunications are the main component (55%) of high technology imports. Aerospace (13%) and Life Sciences (12%) also make up notable shares.

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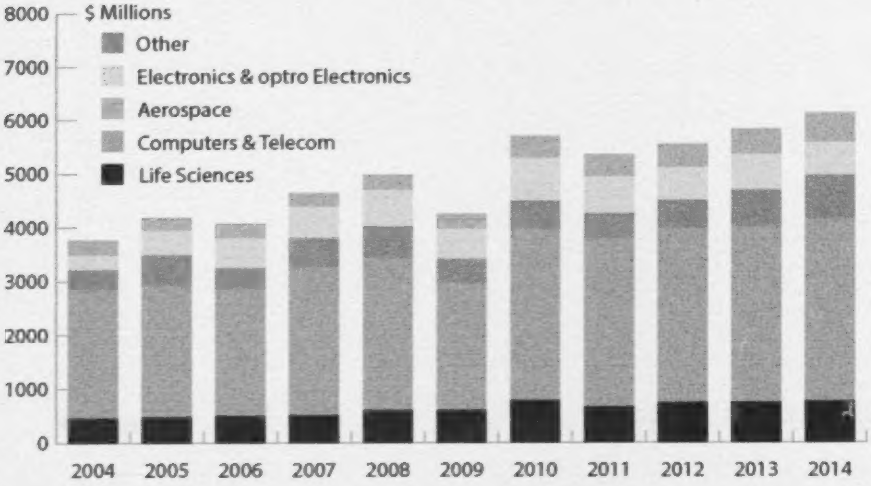
[26] Although some tech imports are consumer goods, such as smart phones, laptops, etc. for personal/household use, a significant portion is comprised of goods and services utilized by businesses operating in the high tech sector.

[27] Note that imports have not been adjusted for inflation or exchange rate effects.

Imports of electronics and opto-electronics have expanded substantially over the past ten years and in 2014 comprised a combined 10% of overall high tech imports.[28]

IINDICATOR X-4: VALUE OF HIGH TECHNOLOGY IMPORTS TO B.C. ($ MILLION)



Data source: BC Stats

Computers and telecommunications make up most of high technology imports to B.C.

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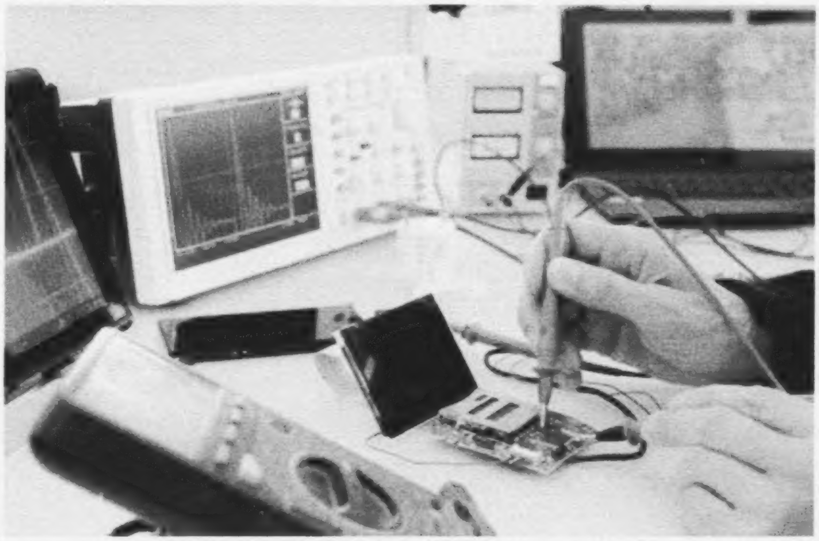
[28] For a description of what these commodity groups contain, see Appendix B of the *Profile of the British Columbia High Technology Sector.*

Labour Indicators



Unlike most of the other indicators in this report, which are grouped according to the sector that provides or affects the input, the following section is a set of indicators that are specific to the labour market but that represent a combined impact of the source sectors. In the case of labour input, indicators such as the unemployment rate are not attributable to a single source sector.

Nation-wide, rates of unemployment among workers in the natural and applied sciences are consistently well below those for the economy as a whole. Unemployment rates in this sector have been falling quite consistently since the early 1990s. The past decade has witnessed both the highs and lows of unemployment rates in B.C., from the labour shortage crisis of 2006-2008 to the economic slowdown that began in late 2008.

TABLE 6: QUICK SUMMARY OF INDICATORS FOR LABOUR

INDICATORS	Trend		Ranking
	Long-Term	Latest Year	Overall
L-1: Unemployment rate for natural and applied sciences	→	↓	2 of 10
L-2: Research personnel per 100,000 population	↑	↓	3 of 10
L-3: Quality of life, Vancouver∞	↓	↑	5 of 221
L-4: Cost of living×	→	↓	10 of 11

∞ The ranking compares Vancouver to 221 cities worldwide.

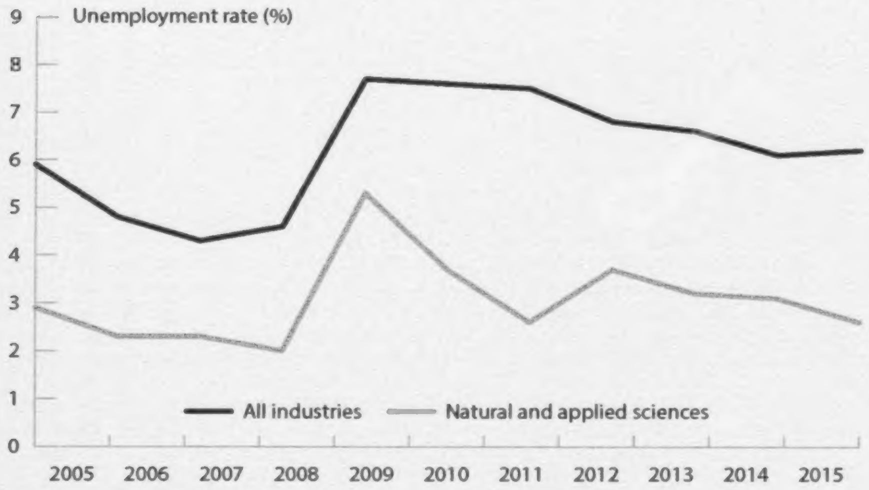
× The ranking compares Vancouver to ten other Canadian cities.

Unemployment Rate in Natural and Applied Sciences

A low level of unemployment in natural and applied sciences occupations is desirable because some components of this group (e.g., computer scientists) are the engines of innovation in the high technology economy. Higher levels of unemployment in this group indicate idle intellectual capital, which has the effect of slowing the overall rate of innovation. Also, a lower ratio between the unemployment rate for natural and applied sciences occupations and the overall labour force indicates heightened demand for these specializations. This should attract high tech workers from other jurisdictions as well as more students into these disciplines.

Between 2005 and 2015, British Columbia's highest annual rate of unemployment for all occupations occurred in 2009 (7.7%), in the thick of the economic downturn. Over the same period, the highest recorded overall unemployment rate for the nation as a whole was also in 2009 (8.3%). In contrast, the highest rate of unemployment for natural and applied sciences in the province was 5.3% and 4.6% for Canada in the same year. Clearly, even in times of economic unrest, persons in the natural and applied sciences occupations have enjoyed an employment advantage compared to the labour force as a whole.

INDICATOR L-1: B.C. UNEMPLOYMENT RATE FOR NATURAL AND APPLIED SCIENCE OCCUPATIONS (%)

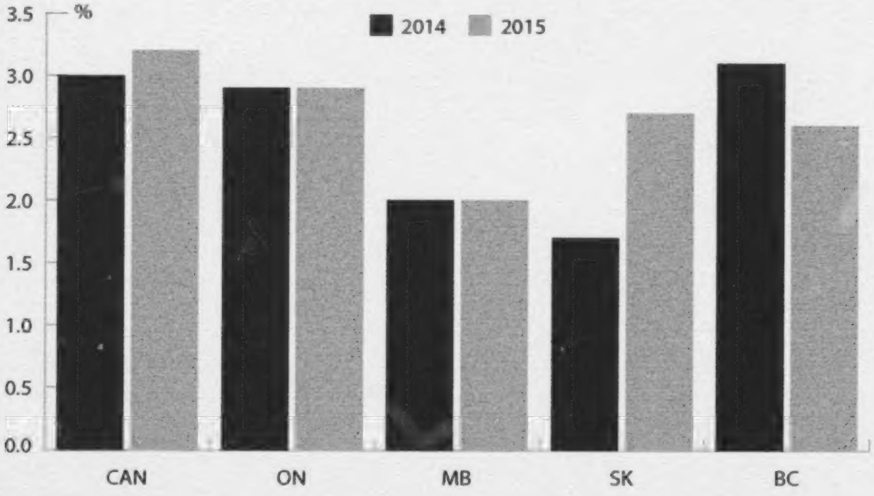


Data source: Statistics Canada

The jobless rates for natural and applied sciences is well below that for all occupations

In 2015, the unemployment rate for natural and applied sciences in British Columbia was 2.6%, down from 2014 (3.1%) and a half point below the national average (3.2% in 2015). In that year, most provinces saw a decrease in unemployment rates in natural and applied sciences. B.C.'s rate remained below all the provinces in 2015, with the exception of Manitoba (2.0%).

UNEMPLOYMENT RATE FOR NATURAL AND APPLIED SCIENCES, 2014 AND 2015 (%)



Data source: Statistics Canada

In 2015, unemployment rates for natural and applied sciences were lowest in Manitoba

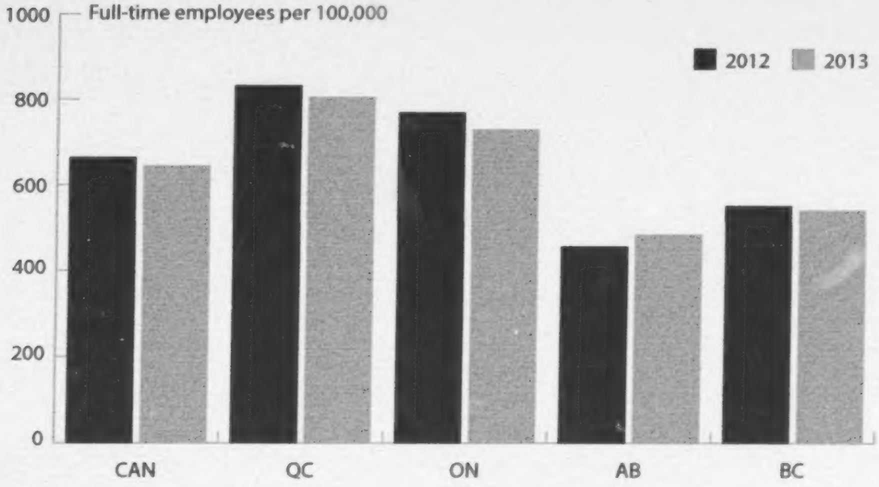
Research Personnel

The absolute number of researchers and technicians engaged in research is an important determinant of the volume of scientific and technical discoveries that may result in patent applications, and in the birth of new firms or the growth of existing firms. The structure of the research workforce is also important in terms of the employment sector, whether federal government, provincial government, business enterprise or higher education. Each sector has different reasons for developing new technology and different methods of bringing new discoveries to market.

In 2013 (the latest year for which data are available), there were approximately 226,620 persons working in the areas of government, business and higher education across the country, a ratio of 645 researchers per 100,000 persons.

Historically, B.C. trailed the overall Canadian average in terms of researchers per 100,000 population. However, in 2003, British Columbia replaced Alberta as the province with the third-highest proportion of researchers and technicians per 100,000 persons, and has since held onto its standing, behind only Ontario and Quebec. In 2013, British Columbia was home to 24,780 researchers (a 0.9% decrease from 2012), or a per capita research force of 541 per 100,000 persons. In the same year, the research force in Alberta and Saskatchewan surged (+9.4% and +10.3%, respectively), pushing their per capita rates up substantially (485 and 466). Conversely, the research forces in Ontario, Quebec and all of Atlantic Canada saw numbers decline. Despite recent declines, Ontario (730) and Quebec (805) continued to have by far the largest research workforce per 100,000.

INDICATOR L-2: TOTAL RESEARCH WORKFORCE PER 100,000 PERSONS, 2012 AND 2013



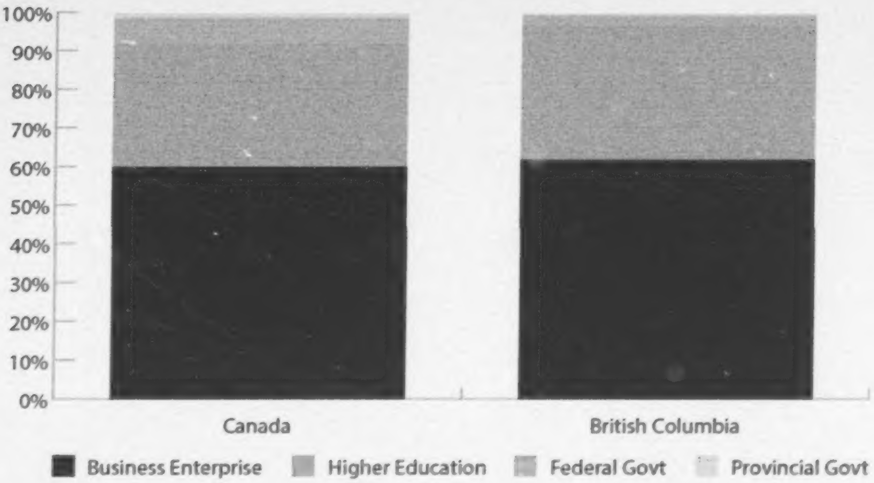
Data source: Statistics Canada

Most provinces with the largest research workforces saw a decline in personnel in 2013

In 2013, as in previous years, business and higher education claimed the largest shares of Canadian research personnel (62% and 33%, respectively). Business accounted for the largest proportion of the research workforce in most provinces. The proportions ranged from just 32% of personnel in Saskatchewan to over two thirds (67%) in Quebec. In British Columbia, approximately 63% of research personnel were from the business sector.

P.E.I, Nova Scotia and Manitoba have a much larger portion of federal research personnel than most provinces, perhaps partly due to the large degree of agricultural research in these provinces. Not surprisingly, due to the concentration of federal agencies in the National Capital Region (Ottawa), Ontario's rate is also somewhat elevated. The proportions of provincial government researchers in Alberta, Saskatchewan and P.E.I. are notably higher than the Canadian average (1%). The share of researchers in the higher education sector in B.C. (36%) continues to be above that of Canada as a whole (33%), but is much lower than for the Atlantic Provinces.

STRUCTURE OF THE RESEARCH WORKFORCE BY SECTOR IN 2013



Data source: Statistics Canada

The bulk of B.C.'s research workforce is found in the business sector

Quality of Life

Mercer Human Resource Consulting developed "quality of life" scales to assist companies in determining hardship pay. Such allowances are often provided when a company sends employees to work in foreign countries. The Mercer quality of life survey provides rankings based on 39 indicators, grouped into ten categories:

- Political and social environment
- Economic environment
- Socio-cultural environment
- Medical and health considerations
- Schools and education
- Public services and transportation
- Recreation
- Consumer goods
- Housing
- Natural environment

British Columbia's largest city is consistently ranked as having the highest overall quality of life in North America and among the highest in the world. Granted, B.C. is made up of many diverse regions, cities and towns, but since Vancouver is the most populous metropolitan area in the province, its high ranking reflects on the province as a whole.[29] Also, most of the quality of life variables are at equally high levels in other parts of the province. The positive ranking for Vancouver holds great potential to provide a substantial competitive advantage in attracting high tech workers.

INDICATOR L-3: QUALITY OF LIFE INDEX RANKING, 2015

	Global Rank	Americas Rank
Vancouver	5	1
Toronto	15	2
Ottawa	16	3
Montreal	24	4
San Francisco	27	5
Calgary	33	6
Boston	34	7
Honolulu	36	8
Chicago	43	9
Seattle	44	10
New York City	44	10

Data source: Mercer Human Resource Consulting

Vancouver consistently ranks first in the Americas on the quality of life scale

In 2015, Vancouver's score on the overall quality of life index remains well above cities in the other provinces included in the study. On a global scale, Vancouver ranks fifth among 221 cities, far higher than Ottawa (16th), Toronto (15th), Montreal (24th), and Calgary (33rd). Key American cities with which B.C. competes for high tech workers and firms (particularly Seattle and San Francisco) also rank lower than Vancouver.

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[29] The Mercer Human Resource quality of life scales give rankings only to large target urban centres. However, an urban centre's ranking can be quite representative of its surrounding regions.

Cost of Living

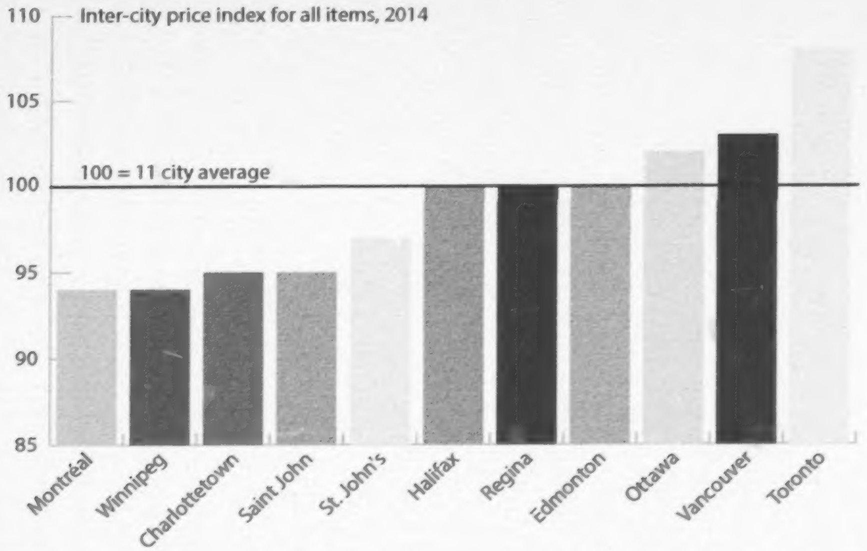
The inter-city price index compares the cost of consumer goods and services in different parts of the country. The "all items" price index is based on a bundle of goods and services that represents the expenditure patterns of a hypothetical average Canadian household. The largest component of the all items index is shelter. This includes the cost of owned or rented housing and related expenses (insurance, electricity, fuel oil, etc.). Prices recorded are the full consumer price, including sales and excise taxes, and are based on a combined city average (100).

Predictably, the higher quality of life for the province's metropolitan centre comes with a price. In terms of general retail prices, Vancouver is the second most expensive large urban centre in Canada. In 2014, Vancouver was the second most expensive urban centre in Canada, for both general retail prices and for shelter costs.

With a rate of 103, retail prices in Vancouver were three points higher than the combined city average (100) in 2014, down from 104 in 2013. Despite the slight decline, Vancouver's overall retail price index remained above Ottawa (102), but below Toronto (108). On the other end of the scale, Montreal (94), Winnipeg (94), Charlottetown (95), Saint John (95) and St. John's (97) continued to enjoy lower than average retail prices.

Shelter costs comprise the largest component of the inter-city price index. In 2014, Vancouver's costs for shelter were 11 points above the average, the second highest in Canada. In Toronto, shelter costs were an even more substantial 16 points above average.

INDICATOR L-4: RETAIL PRICES BY MAJOR CITY



Retail prices in Vancouver are above those of the average metropolitan city in Canada, but lower than those in Toronto

Note: This index measures only the price differences for a specific basket of goods, which may or may not be representative of the overall cost of living for each specific city.

Data source: Statistics Canada

Post-Secondary Outcomes

Findings from the Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey and from the Baccalaureate Graduates Survey (BGS) provide an understanding of the educational and post-academic experiences of British Columbia's post-secondary students. This information is useful in determining if the educational programs are meeting the learning needs of former students of high technology-related programs and of former post-secondary students who hold jobs in the high technology sector.

The DACSO Survey is one of the annual surveys in the BC Student Outcomes program, which collects information from B.C.'s former post-secondary students. The DACSO Survey asks former students from diploma, associate degree, and certificate programs to evaluate their educational experiences and to talk about their employment and further education. It is conducted 9 to 20 months after students leave their programs. The analysis in this report focusses on graduates from certificate and diploma programs only.[30]

The BGS is also part of BC Student Outcomes. Since 2000, the BGS has been tracking the outcomes of baccalaureate graduates, both two and five years after graduation. The BGS gathers information on baccalaureate graduates' education satisfaction levels, financing and student debt, further studies, and employment outcomes. BGS data used in this report are from the two-year out survey cycle only.[31]The surveys are conducted with funding from the Ministry of Advanced Education and participating post-secondary institutions.

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[30] Throughout this section of the report, 'graduates' is used to refer to former students who graduated from their programs and responded to the survey. It does not refer to all post-secondary graduates.

[31] Graduates of four high technology program areas were surveyed by the DACSO Survey: Physical and Life Sciences; Computer and Information Sciences; Engineering and Related Technologies; and Health and Clinical Sciences. Data shown are from 2013, 2014, 2015. Three high technology program areas were represented in the BGS—Physical and Life Sciences, Computer and Information Sciences, and Engineering and Related Technologies. Data shown are from 2012, 2013, 2014.

Respondents to both surveys were asked about their satisfaction with their education, the quality of instruction, whether they enrolled in further studies after graduation, and their current activities (e.g., studying or working). The survey results also provided insight into the unemployment rates for graduates of high technology programs.

For those who were employed, the surveys provided information about the characteristics of employment, including whether the job was full-time, if it was related to the training they received, and if it involved paid employment (versus self-employment). Average weekly hours worked and average hourly wages (diploma and certificate) or average annual salary (BGS) were also available. Finally, the top occupations among high technology program graduates were provided, as were the programs from which high technology job holders graduated.

TABLE 7: QUICK SUMMARY OF INDICATORS FOR POST-SECONDARY OUTCOMES

INDICATORS	DACSO Graduates		BGS Graduates	
	High Tech Program	Non-High Tech Program	High Tech Program	Non-High Tech Program
O-1: Satisfaction with education	94%	93%	92%	93%
O-2: Quality of instruction~	94%	94%	92%	95%
O-3: Further studies since graduation	31%	32%	54%	52%
O-4: In the labour force	88%	92%	78%	90%
O-5: Employment rates	78%	83%	70%	84%
O-6: Unemployment rates	10.3%	9.3%	10.2%	6.9%
O-7: Job related to training^	83%	78%	71%	73%
O-8: Knowledge, skills & abilities useful in job^	87%	85%	81%	85%

INDICATORS	DACSO Graduates		BGS Graduates	
	Employed in High Tech Occupations	Not Employed in High Tech Occupations	Employed in High Tech Occupations	Not Employed in High Tech Occupations
O-9: Training related to job^	93%	78%	85%	73%
O-10: Paid worker^!	95%	95%	96%	95%
O-11: Full-time employment^	88%	83%	96%	83%
O-12: Median income (hourly for DACSO, annual for BGS)	$25	$20	$58,000	$45,000

~ On the DACSO Survey, quality of instruction was asked using a 5-point scale: very good, good, adequate, poor, and very poor. Percentages presented for DACSO quality of instruction include very good, good, and adequate. On the BGS Survey, quality of instruction was asked using a 4-point scale: very good, good, poor, and very poor. Percentages presented for BGS quality of instruction include very good and good.

^ Of those respondents who indicated they were employed.

! In the DACSO Survey, respondents were asked if they were paid workers or self-employed. In the BGS Survey, respondents were asked if they were paid workers, self-employed, or both a paid worker and self-employed. Percentages presented for the BGS Survey represent the percentage of respondents who indicated they were solely a paid worker and those who indicated they were both a paid worker and self-employed.

Note that data from the DACSO and BGS surveys are for British Columbia only and, therefore, provincial comparisons are not available. Due to small numbers, three years of data had to be combined in order to be able to have reportable figures. As a result, time series comparisons are not possible either.

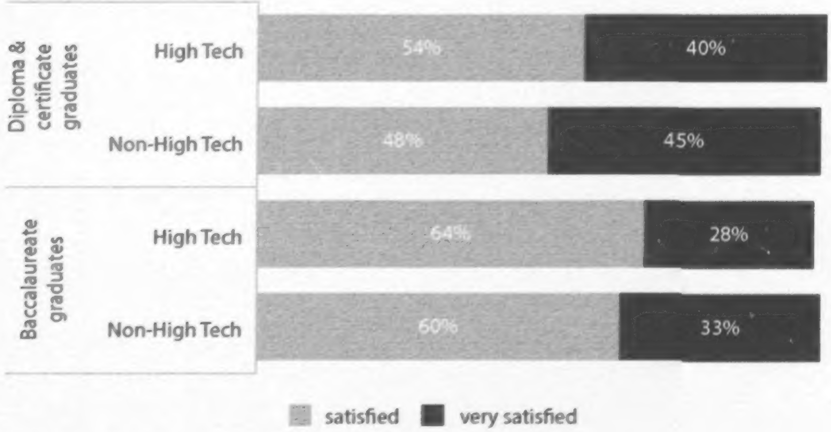
Education Evaluation

An education in a high technology program area—such as Physical and Life Sciences, Computer and Information Sciences, Engineering and Related Technologies, and Health and Clinical Sciences—provides a skilled workforce ready for employment in high technology occupations. Satisfaction with studies and high quality instruction are indicative of programs that prepare graduates well for work in these fields. Continuing studies after graduation indicates additional education is needed or desirable.

A number of the post-secondary educational programs delivered in B.C. fall within the definition of 'high technology'. The high technology programs taken by diploma and certificate respondents have been grouped into four program areas: Physical and Life Sciences, Computer and Information Sciences, Engineering and Related Technologies, and Health and Clinical Sciences. The baccalaureate survey included program graduates from Physical and Life Sciences, Computer and Information Sciences, and Engineering and Related Technologies.

As seen in figure O-1, high technology program graduates reported high levels of satisfaction with their education. Almost all diploma and certificate (94%) and baccalaureate (92%) high technology program graduates said they were very satisfied or satisfied with their education, comparable with graduates of non-high technology programs.

INDICATOR O-1: SATISFACTION WITH EDUCATION



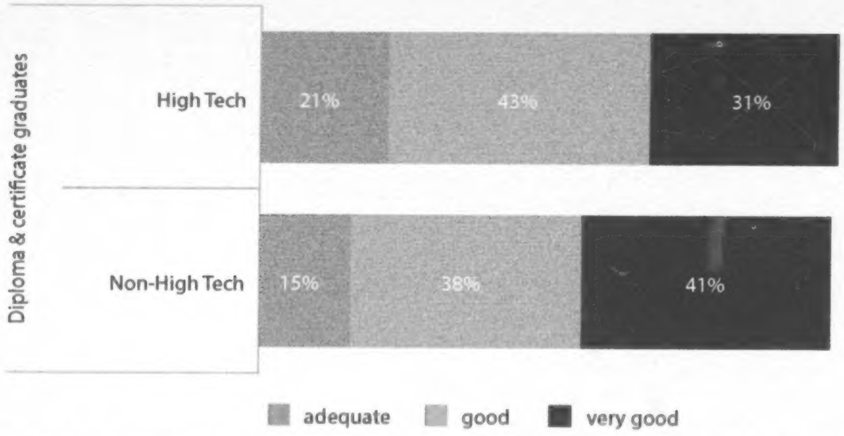
Nearly all graduates were satisfied with their education

Note: Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey.

Post-secondary graduates also gave favourable reviews of their course instruction. Most (94%) high technology diploma and certificate graduates said that the quality of the instruction they received was adequate or better, on par with graduates from other programs.

INDICATOR O-2 (A): QUALITY OF INSTRUCTION AMONG DACSO GRADUATES



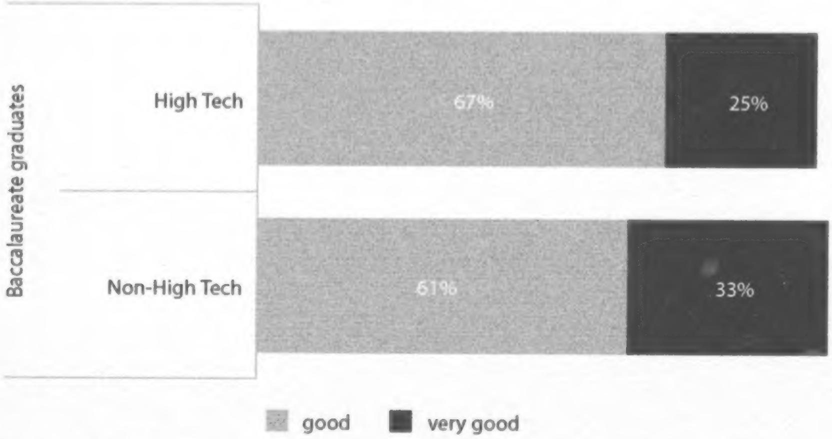
DACSO Graduates were happy with the quality of their instruction

Note: On the DACSO Survey, quality of instruction was asked using a 5-point scale: very good, good, adequate, poor, and very poor. Percentages presented for DACSO quality of instruction include very good, good, and adequate. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey

As figure O-2(B) shows, among high technology baccalaureate program graduates, 92% reported that the quality of their instruction was good or better, slightly lower than the percentage of non-high technology graduates (95%).

INDICATOR O-2 (B): QUALITY OF INSTRUCTION AMONG BGS GRADUATES



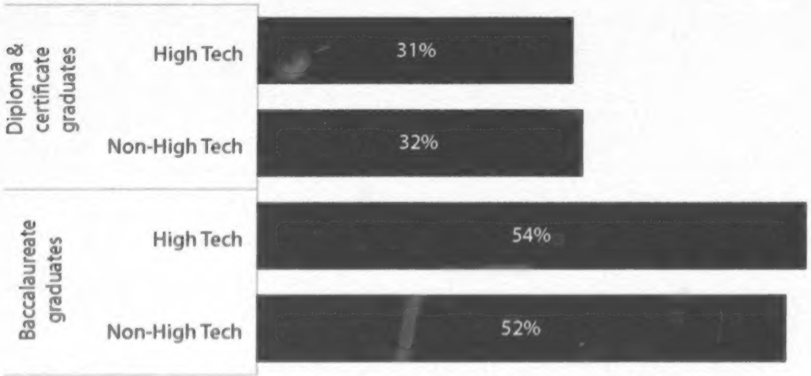
BGS graduates rate the quality of their instruction highly

Note: On the BGS Survey, quality of instruction was asked using a 4-point scale: very good, good, poor, and very poor. Percentages presented for BGS quality of instruction include very good and good. Numbers may not add due to rounding.

Data source: BC Student Outcomes, Baccalaureate Graduates Survey

Many graduates, whether from high technology programs or not, continue their education. Figure O-3 illustrates that nearly a third (31%) of diploma and certificate graduates and over half (54%) of baccalaureate graduates from high technology programs had pursued further studies since graduation. Additional education was more common among diploma and certificate graduates from other programs and less common among baccalaureate graduates from other programs.

INDICATOR O-3: FURTHER EDUCATION



Many graduates chose to further their education

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

Labour Force Outcomes

Participation in the labour force and high employment rates indicate positive employability among high technology program graduates. Unemployment, however, does not necessarily indicate that graduates are not employable. Rather, it may be that the job market favours those with additional training or experience. High proportions of post-secondary graduates working in training-related jobs are indicative of a strong high technology workforce. Receiving the right training is vital and this is corroborated by a majority of graduates reporting that the training they received is useful in the performance of their jobs.

At the time of the survey, the majority of post-secondary program graduates were in the labour force, but some pursued further education instead. This was particularly the case for graduates with baccalaureates.

Figure O-4 shows that approximately 9 out of 10 diploma and certificate graduates were in the labour force at the time of the survey—88% of high technology graduates and 92% of non-high technology program graduates.

Among baccalaureate graduates, 78% of high technology graduates and 90% of non-high technology graduates were in the labour force. This disparity is likely due to the fact that nearly a quarter (22%) of baccalaureate high technology grads were engaged solely in studies at the time of the survey, whereas just nine percent of graduates from non-high technology disciplines were exclusively dedicated to studying.[32]

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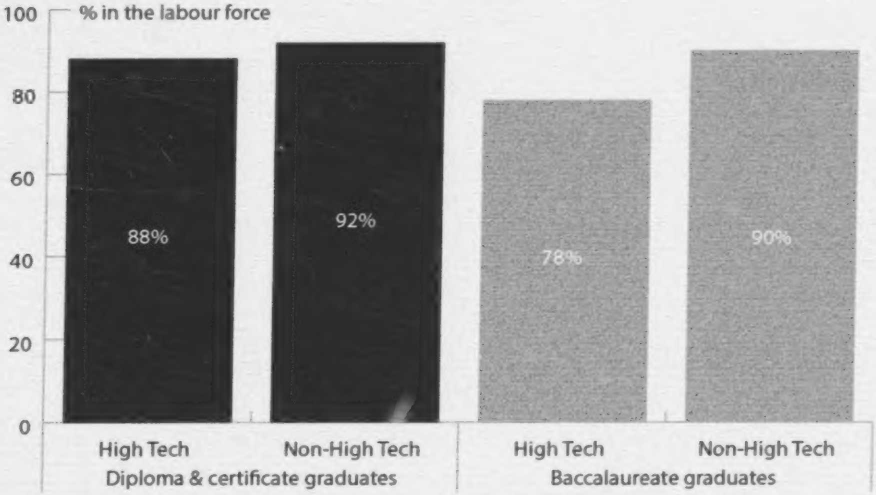
[32] Note that some may be looking for work and would therefore be considered in the labour force.

INDICATOR O-4: IN THE LABOUR FORCE POST-GRADUATION

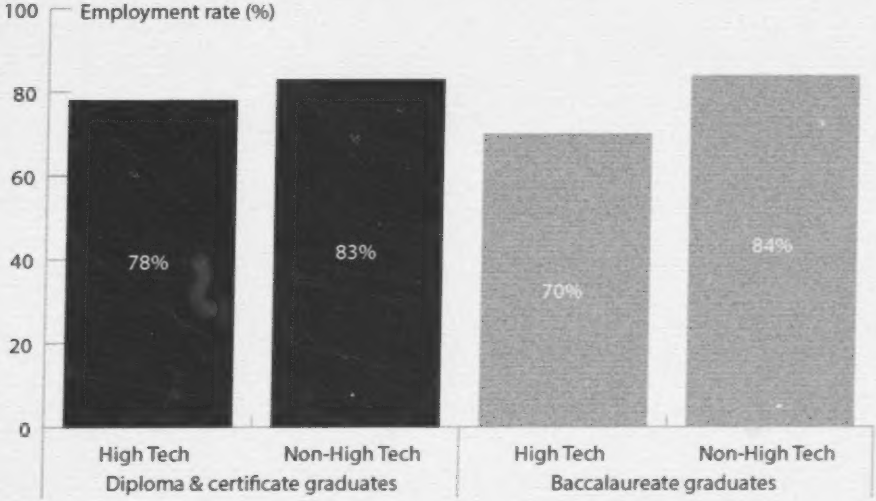


BGS high technology graduates were less likely to be in the labour force than their non-high tech counterparts

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

As seen in figure O-5, the employment rate for high technology baccalaureate graduates (70%) was also considerably lower than for non-high tech baccalaureate graduates (84%). This too may be due to the group of high technology graduates who are exclusively studying.

INDICATOR O-5: EMPLOYMENT RATES POST-GRADUATION



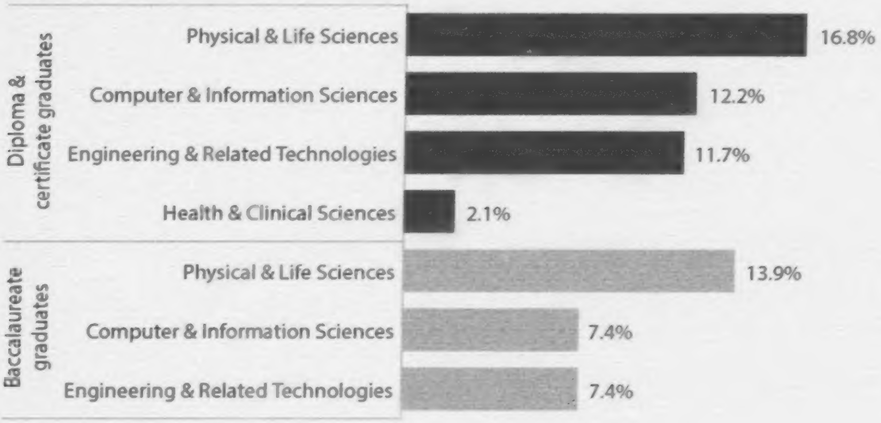
Employment rates were lower among high tech BGS graduates than those of non-high tech BGS graduates

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey.

The unemployment rate for diploma and certificate high technology program graduates was 10.3%, while the rate for graduates from other programs was slightly lower (9.3%). Figure O-6 shows that there was significant variation among the four high technology programs surveyed. For example, the jobless rate for graduates of Health and Clinical Sciences (2.1%) was notably lower than for graduates of other high technology programs.

There were also substantial differences in unemployment rates among the three high technology program groups surveyed by the BGS. The unemployment rate for Physical and Life Sciences graduates (13.9%) was nearly double that of graduates from other programs. At the time of the survey, the unemployment rate for high technology baccalaureate graduates overall was 10.2%, compared to 6.9% for BGS graduates from other programs

INDICATOR O-6: HIGH TECHNOLOGY GRADUATES: UNEMPLOYMENT RATES POST-GRADUATION



Graduates faced different unemployment rates depending on their field of study

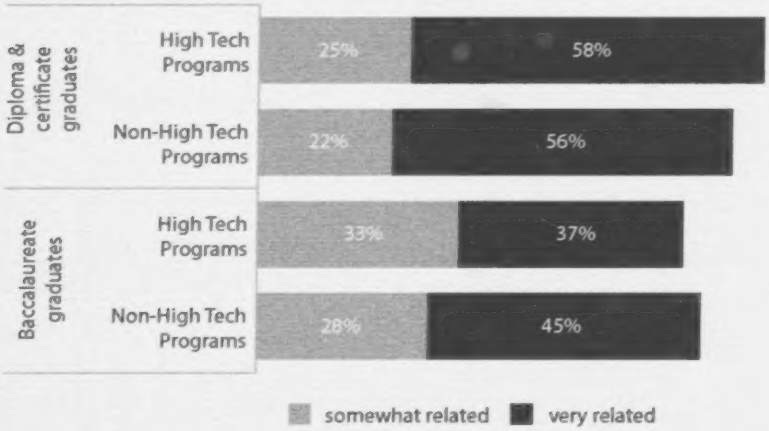
Note: Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

At the time of the survey, most graduates were working in jobs that were related to their training, which suggests that, at the time of the surveys, there was a market for their skills. As seen in figure O-7, approximately 83% of high technology program diploma and certificate graduates and 78% of employed graduates from other programs were in training-related jobs. Similarly, among baccalaureate graduates, about 7 out of 10 employed were in jobs related to their training with 71% of those from high technology programs and 73% of those from other programs in training-related positions.

It is difficult to ascertain why, for some grads, there was a lack of correspondence between their jobs and their education. It is possible that the market was insufficient, but it is also feasible that certain graduates made the decision to work in different fields.

INDICATOR O-7: JOB RELATED TO TRAINING



Most graduates of high tech programs were working in jobs related to their training

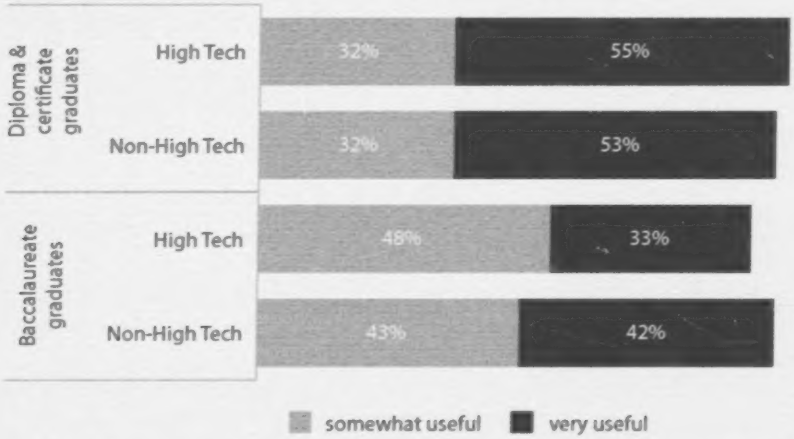
Note: Results presented are for employed graduates only. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

As figure O-8 shows, among diploma and certificate graduates, approximately 87% of those from high technology programs and 85% of graduates from other programs reported that their education was useful in the performance of their job. Baccalaureate graduates who had completed high technology programs were less likely than non-high technology graduates to say that their education was useful in the performance of their job—81% versus 85%.

The fact that most graduates, regardless of the job they held, said that what they learned during their education was useful in the performance of their job suggests that their education had a broad-based utility in the labour market.

INDICATOR O-8: KNOWLEDGE, SKILLS, AND ABILITIES GAINED DURING EDUCATION USEFUL IN PERFORMANCE OF JOB



Education is useful in job performance

Note: Results presented are for employed graduates only. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

High Technology Occupations

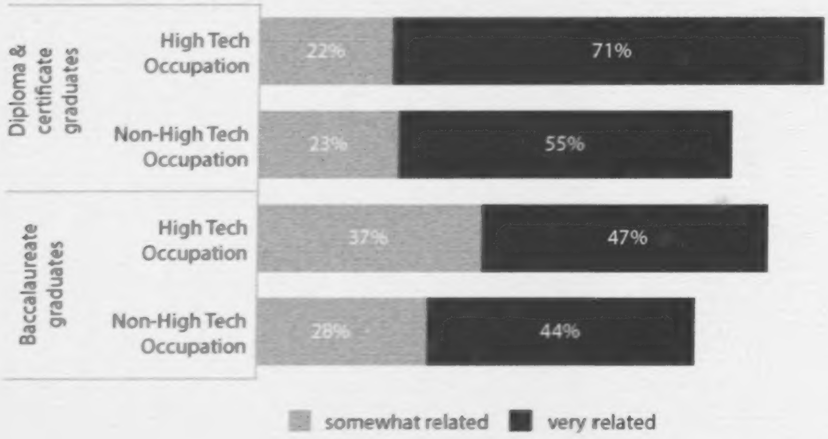
Employment in a high technology occupation provides graduates from high technology programs with an outlet for their skills and abilities. Working in training-related jobs shows an alignment with graduates' education and training.

The three most common occupations among high technology job holders with diplomas or certificates were medical technologists and technicians (excluding dental), computer and information systems professionals, and technical occupations in electronics and electrical engineering.

Among baccalaureate graduates, the three most common high technology occupations were computer and information systems professionals, civil, mechanical, electrical and chemical engineers, and technical occupations in the physical sciences.

The majority of diploma and certificate (93%) and baccalaureate (85%) graduates who had high technology occupations said their job was very or somewhat related to their training, suggesting a significant alignment between students' programs of study and their future occupations.

INDICATOR O-9: TRAINING-RELATED JOB HELD BY DACSO AND BGS GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS



Most graduates were working in jobs that were related to the training they received

Note: Results presented are for those graduates who were employed at the time they were surveyed. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DASCO Survey and Baccalaureate Graduates Survey

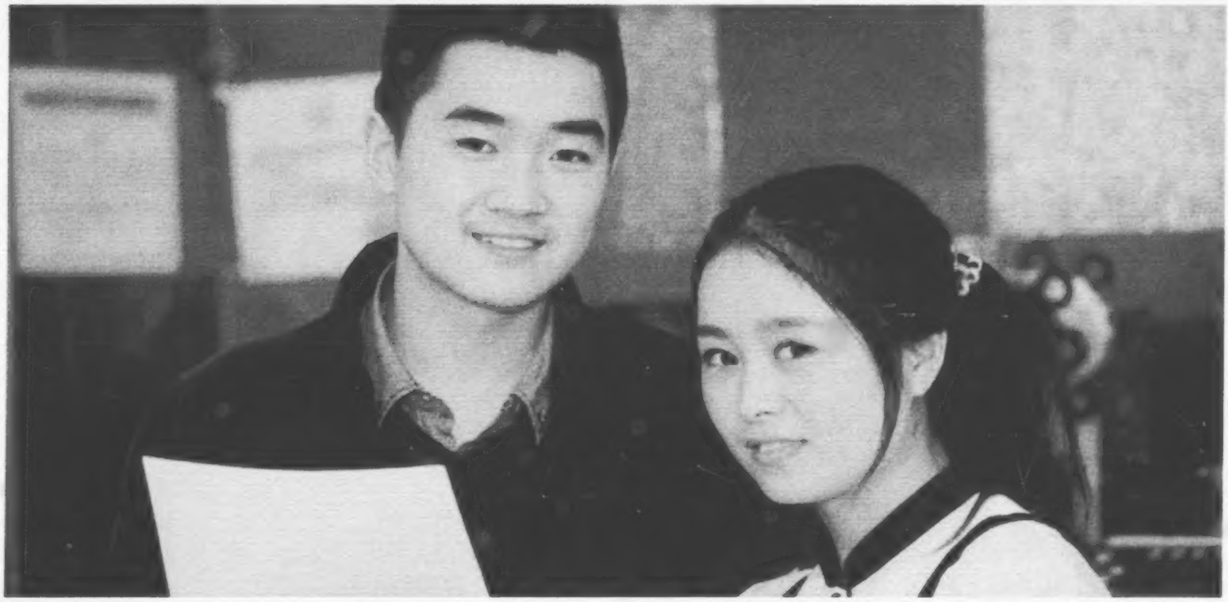
As seen in table 8, close to four out of ten (36%) diploma and certificate graduates in high technology occupations came from Health and Clinical Sciences programs, and approximately one-quarter (23%) completed programs in Engineering and Related Technologies. Among baccalaureate graduates working in high technology occupations, just under one-third (32%) had degrees from Engineering and Related Technologies programs, and almost a quarter (24%) graduated from Computer and Information Sciences programs.

TABLE 8: GRADUATING PROGRAM FOR HIGH TECHNOLOGY JOB HOLDERS

Program of Origin	Diploma & Certificate High Technology Job Holders Percent	Baccalaureate High Technology Job Holders Percent
Health and Clinical Sciences	36%	n/a
Engineering and Related Technologies	23%	32%
Computer and Information Sciences	16%	24%
Physical and Life Sciences	3%	19%
Non-High Technology	22%	25%

Note: Results presented are for those graduates who were employed in high technology occupations at the time they were surveyed. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey



Looking deeper at the top three high technology occupations held by graduates, there was a fairly high degree of correspondence between occupation and high technology program area (see table 9 and 10). Indeed, among baccalaureate graduates, almost all (94%) civil, mechanical, and chemical engineers completed programs in Engineering and Related Technologies. Similarly, almost all (91%) diploma and certificate graduates who became medical technologists and technicians (excluding dental) completed programs in Health and Clinical Sciences.

TABLE 9: DACSO PROGRAM OF ORIGIN FOR TOP 3 HIGH TECHNOLOGY OCCUPATIONS

Program of Origin	Medical Technologists and Technicians (excl. dental)	Computer and Information Systems Professionals	Technical Occupations in Electronics and Electrical Engineering
Health and Clinical Sciences	91%	0%	0%
Engineering and Related Technologies	0%	31%	72%
Computer and Information Sciences	0%	42%	1%
Physical and Life Sciences	1%	0%	0%
Non-High Technology	7%	26%	27%

Note: Results presented are for those graduates who were employed in high technology occupations at the time they were surveyed. Numbers may not add due to rounding.

Data source: BC Student Outcomes, DASCO Survey

TABLE 10: BGS PROGRAM OF ORIGIN FOR TOP 3 HIGH TECHNOLOGY OCCUPATIONS

Program of Origin	Computer and Information Systems Professionals	Civil, Mechanical, Electrical and Chemical Engineers	Technical Occupations in Physical Sciences
Engineering and Related Technologies	24%	95%	6%
Computer and Information Sciences	48%	0%	1%
Physical and Life Sciences	4%	3%	58%
Non-High Technology	25%	2%	35%

Note: Results presented are for those graduates who were employed in high technology occupations at the time they were surveyed. Numbers may not add due to rounding.

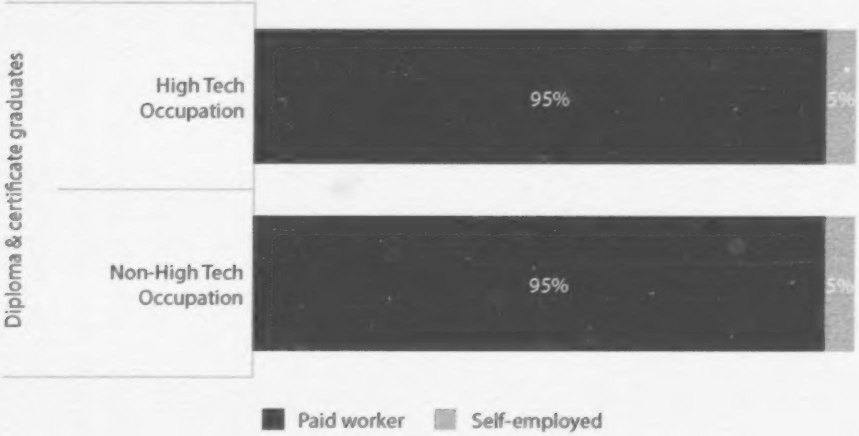
Data source: BC Student Outcomes, Baccalaureate Graduates Survey

Employment Characteristics

A high proportion of individuals employed as paid workers indicates there is a market for skilled high technology workers. Self-employment suggests there is a niche for high technology-related entrepreneurship. The proportion of post-secondary graduates employed full-time in high technology occupations points to availability of work in these areas. The wages received by post-secondary graduates employed in high technology occupations indicate the demand for these jobs and the economic impact they have.

Like graduates in non-high tech occupations, high technology job holders are far more likely to be employed full-time as paid workers than self-employed. Most diploma and certificate and baccalaureate graduates, as seen in figures O-10 (A) and (B) (each 95%) worked for an employer, regardless of whether they had a high technology occupation or not.

INDICATOR O-10 (A): MAIN JOB PAID EMPLOYMENT OF DACSO GRADUATES

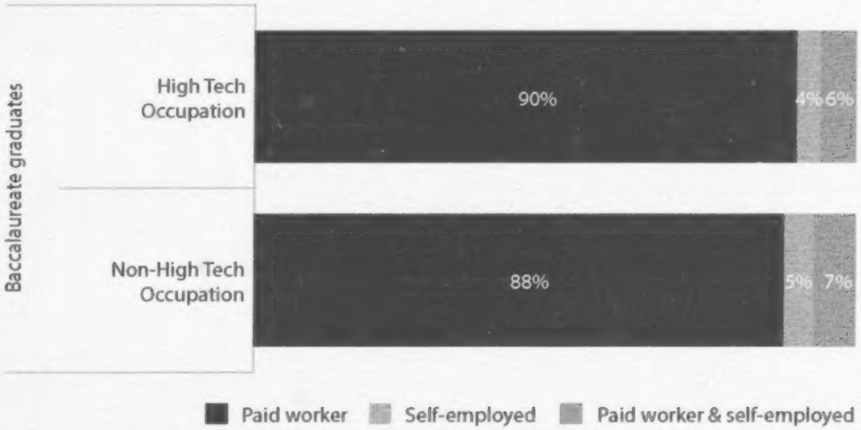


Most diploma and certificate graduates worked as paid employees at their main job

Note: Results presented are for those graduates who were employed at the time they were surveyed. In the DACSO Survey, respondents were asked if they were paid workers or self-employed in their main job.

Data source: BC Student Outcomes, DACSO Survey

INDICATOR O-10 (B): PAID EMPLOYMENT OF BACCALAUREATE GRADUATES



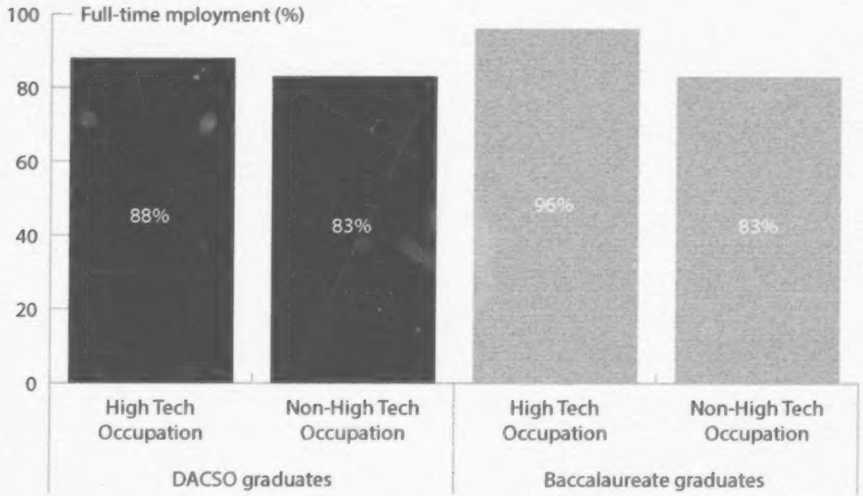
Baccalaureate graduates were also more likely to work as paid employees, regardless of whether or not they were in high tech occupations

Note: Results presented are for those graduates who were employed at the time they were surveyed. In the BGS Survey, respondents were asked if they were paid workers, self-employed, or both a paid worker and self-employed. Percentages presented for the BGS Survey represent the percentage of respondents who indicated they were solely a paid worker and those who indicated they were both a paid worker and self-employed.

Data source: BC Student Outcomes, Baccalaureate Graduates Survey

Graduates employed in high technology occupations were more likely than those working in non-high technology occupations to be employed full-time (working at least 30 hours per week). Approximately 84% of high technology diploma and certificate graduates were employed full-time in their main job, compared to 78% of non-high tech graduates. The comparable figures for baccalaureate graduates were 96% and 83%, respectively.

INDICATOR O-11: FULL-TIME EMPLOYMENT OF DACSO AND BGS GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS



Graduates in high tech occupations were more likely to hold full-time jobs than non-high tech workers

Note: Results presented are for those graduates who were employed at the time they were surveyed; reported for main job.

Data source: BC Student Outcomes, DACSO Survey and Baccalaureate Graduates Survey

As seen in tables O-12 (A) and (B), graduates employed in high technology occupations also earned higher wages than those in non-high technology jobs. Diploma and certificate graduates in high technology occupations earned a median hourly wage of $25 in their main job, compared to $20 for their counterparts in non-high technology occupations. Similarly, the median annual income among baccalaureate graduates employed in high technology jobs was $58,000, while those who did not hold high technology jobs, earned a median annual income of $45,000.

For diploma and certificate graduates employed in one of the top three high technology occupations, those who held positions as medical technologists and technicians (excluding dental) reported the highest median hourly wage ($27) in their main job. For baccalaureate graduates employed in one of the top three high technology occupations, those who were civil, mechanical, electrical, and chemical engineers had the highest median annual income ($62,500) in their main job.

INDICATOR O-12 (A): INCOME FOR DACSO GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

	Median Hourly Wage
Not employed in High Technology Occupations	$20
Employed in High Technology Occupations	$25
Top 3 High Technology Occupations:	
Medical Technologists and Technicians (excl. Dental)	$27
Computer and Information Systems Professionals	$24
Technical Occupations in Electronics and Electrical Engineering	$23

Note: Results presented are for those graduates who were employed at the time they were surveyed; reported for main job.

Data source: BC Student Outcomes, DACSO Survey

INDICATOR O-12 (B): INCOME FOR BACCALAUREATE GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

	Median Annual Income
Not employed in High Technology Occupations	$45,000
Employed in High Technology Occupations	$58,000
Top 3 High Technology Occupations:	
Computer and Information Systems Professionals	$60,000
Civil, Mechanical, Electrical, and Chemical Engineers	$65,000
Technical Occupations in Physical Sciences	$41,800

Note: Results presented are for those graduates who were employed at the time they were surveyed; reported for main job.

Data source: BC Student Outcomes, Baccalaureate Graduates Survey

Conclusion

British Columbia compares reasonably well with other Canadian provinces with regard to providing an environment that will attract high technology businesses.

In general, British Columbia exhibits strength in terms of performance in the education sector. The province's universities have excelled in technology licenses and patents issued. B.C. also fares relatively well in funding for researchers in its educational institutions. B.C. continues to boast the highest percentage of the population with high school education, but shows a deficiency with respect to training of new graduates in some technology-specific academic fields. Higher education research and development as a percent of GDP in the province is also low by Canadian standards; however, funding for researchers and performance of technology licensing and patents in the province's educational institutions is commendable.

Compared to other Canadian provinces, British Columbia returns above average ratings in about half of the business stimulus indicators, and there have also been some positive developments in recent years. In the most recent reporting year, B.C. maintained a solid ranking of third among the

provinces in the ratio of research and development (R&D) performance by business to provincial GDP. Despite scoring below average on some other business stimulus indicators, such as patents awarded per capita, the province shows signs of strength with long-term growth in the number of high technology businesses and venture capital investment per capita.

Individual, small business and corporate taxation continue to be more favourable in B.C. than in most other parts of the country. As a share of GDP, combined federal and provincial government R&D activities are by far the lowest in Canada. However, the province fares much better in terms of gross expenditure on R&D as a share of GDP.

In relation to the size of its population, British Columbia is relatively on par with other provinces in attracting skilled immigrants, but their average level of education is slightly lower than in some other parts of the country. Meanwhile, B.C. imports of high technology goods have climbed considerably in recent years.

Unemployment rates among workers in the natural and applied sciences in B.C. have declined substantially in recent years and sit notably lower than the national average. In the latest reporting year, British Columbia maintained a third place ranking in terms of researchers per 100,000 population. B.C.'s largest city continuously ranks among the most desirable places to live in the world, despite its somewhat high cost of living.

Graduates from high technology-related disciplines are generally satisfied with their education and find their studies useful in the workplace. Most of these graduates are successful at finding full-time employment in fields related to their studies.

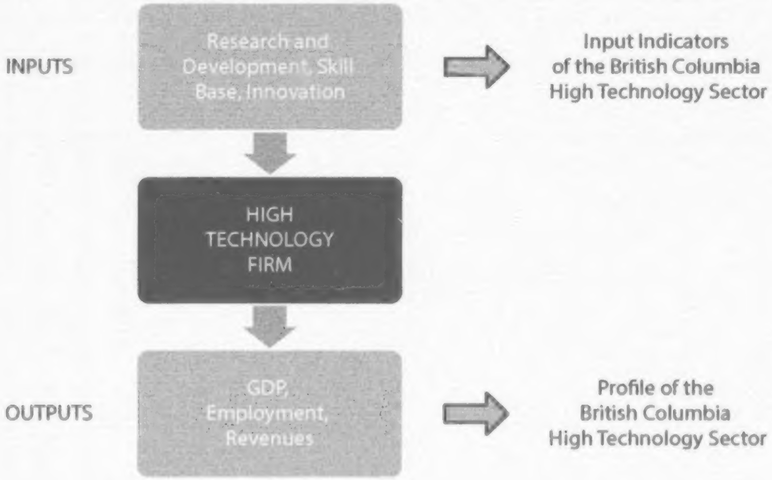
The high technology sector is an integral part of today's global economy. If provided with a hospitable environment for growth, this sector has the potential for further boosting business and employment in the province.

Appendix I: BC Stats' Sector Model

In BC Stats' model of the high technology sector (see section 10.2. "Modeling the High Technology Sector"), the firm is the centre of the system of high technology production. The firm receives inputs, in the form of labour, physical and financial capital, raw materials and parts, and knowledge. Knowledge may be embodied in labour (human capital) or other inputs, or it may come in the form of patents and copyrights, books and electronic information, etc. Through its internal operations, the firm then produces outputs. These outputs are products and services, and (in some views) also include employment and other benefits to society.

This firm-centred view underlies BC Stats' publication strategy for high technology sector information, as shown in the diagram below.

FIGURE 1: BC STATS' PRODUCTS FOR MONITORING THE HIGH TECHNOLOGY SECTOR


INPUTS
Research and Development, Skill Base, Innovation
Input Indicators of the British Columbia High Technology Sector
HIGH TECHNOLOGY FIRM
OUTPUTS
GDP, Employment, Revenues
Profile of the British Columbia High Technology Sector

What is an Indicator?

The concept of indicators is well understood in the operation of machines. For instance, the dashboard of a car has many indicators. The speedometer measures the main output, which is forward motion. However, gauges such as oil pressure and water temperature assess how well the engine is working as a system. They predict the engine's future performance, and may suggest the need for specific adjustments.

Predicting the future, in terms of the economy, requires an examination of the chain of events that lead to the production of specific outputs and the development of indicators for those steps in the chain judged to be most important. Similarly, predicting the future of the high technology sector requires developing a model of what drives growth in the sector, and then obtaining indicators for each component of the model.

In selecting indicators, consideration must be given not only to their place in a growth model of the high technology sector, but also to their accuracy and availability. Indicators should meet other tests as well. In the annual (since 1997) Index of the Massachusetts Innovation Economy,[33] all potential indicators are subject to a set of five criteria. The indicators selected for inclusion in the report are:

- derived from objective and reliable data sources,
- statistically measurable on an ongoing basis,
- bellwethers that reflect the fundamentals of economic vitality,
- understood and accepted by the community, and
- measurements of conditions in which there is an active public interest.

These criteria help ensure that the indicators become relevant to politicians and citizens as well as to statisticians, and have thus been adopted for this report as well.

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[33] Massachusetts Technology Collaborative, Annual *Index of the Massachusetts Innovation Economy*. Available at: www.masstech.org

Modeling the High Technology Sector

In 1998, BC Stats, the Information, Science and Technology Agency of British Columbia, and the Science Council of British Columbia began a collaboration to devise a model of the B.C. high technology sector, with an associated set of indicators. This resulted in two working papers. The first reviewed definitions of the high technology sector and models of the innovation economy in other jurisdictions, while the second proposed a model for use in B.C., together with a large number of potential indicators for that model.[34] Subsequently, BC Stats has simplified the model and prepared a corresponding shorter list of indicators. The simplified model and indicators form the basis for this publication.

The traditional model of economic production focuses on land, labour and capital, which are the "factors of production" or inputs into the production process. These factors are transformed by firms, other organizations, or individuals into valued goods and services. GDP is the main measure of that value and is the most common statistic used to describe the production of economic sectors. This traditional model can be thought of as an input/output view of the economy. The inputs are obtained from a variety of sources and enter a production process, resulting in outputs.[35]

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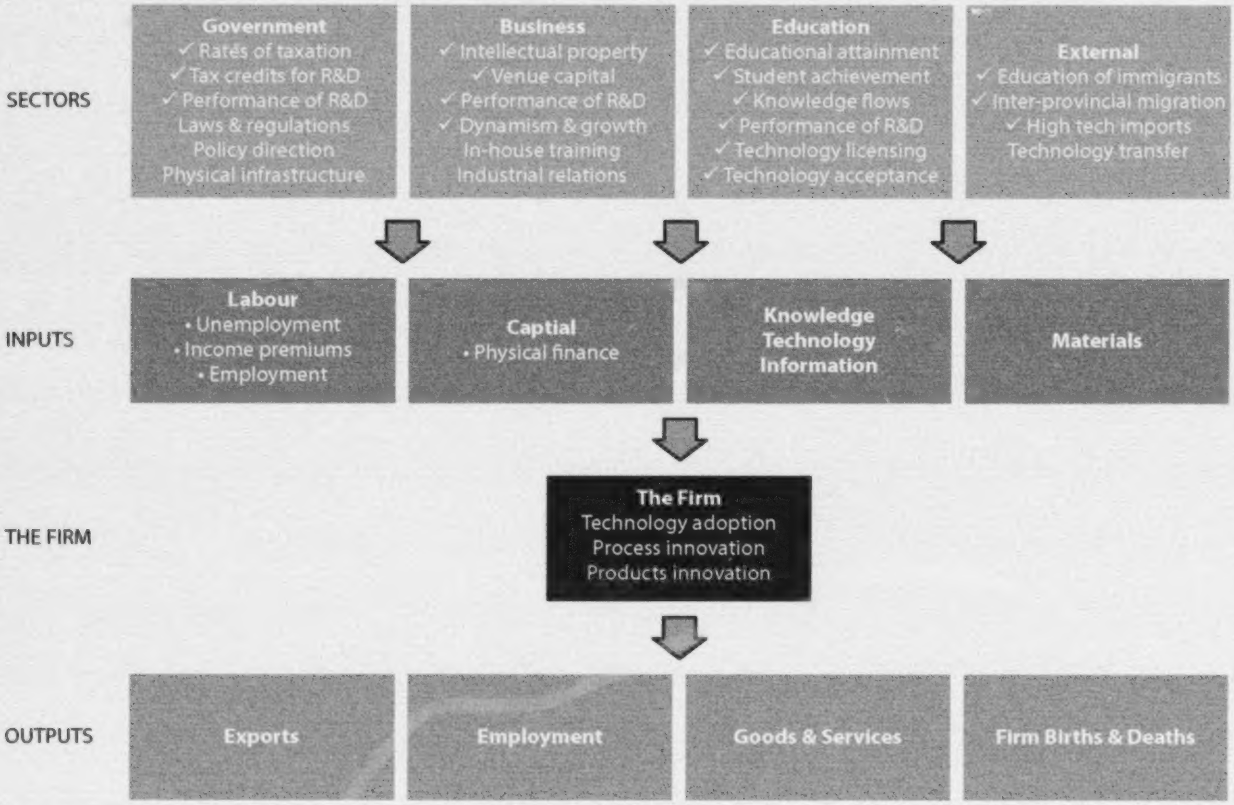
[34] Koebberling, Uschi and Veneranda Dettmers, "A Model of the BC High Technology Sector: Description of Factors and Linkages Affecting the Growth of the High Technology Sector in the Context of an Innovation Economy," Science Council of BC, April 1999. Available at www.llbc.leg.bc.ca/public/pubdocs/bcdocs/358283/high_technology.pdf

[35] This is also referred to as the neoclassical model. See Lipsey, Richard G. and Kenneth Carlaw, "A Structuralist Assessment of Technology Policies—Taking Schumpeter Seriously on Policy," Working Paper #25, Industry Canada, Research Publications Program, October 1998. Available at www.ic.gc.ca/eic/site/eas-aes.nsf/eng/ra01700.html

FIGURE 2: MODEL OF THE HIGH TECHNOLOGY SECTOR


SECTORS
Government
✓ Rates of taxation
✓ Tax credits for R&D
✓ Performance of R&D
Laws & regulations
Policy direction
Physical infrastructure
Business
✓ Intellectual property
✓ Venue capital
✓ Performance of R&D
✓ Dynamism & growth
In-house training
Industrial relations
Education
✓ Educational attainment
✓ Student achievement
✓ Knowledge flows
✓ Performance of R&D
✓ Technology licensing
✓ Technology acceptance
External
✓ Education of immigrants
✓ Inter-provincial migration
✓ High tech imports
Technology transfer
INPUTS
Labour
• Unemployment
• Income premiums
• Employment
Captial
• Physical finance
Knowledge
Technology
Information
Materials
THE FIRM
The Firm
Technology adoption
Process innovation
Products innovation
OUTPUTS
Exports
Employment
Goods & Services
Firm Births & Deaths

The advent of the "information economy" has added a new dimension to traditional economic production, and some efforts to describe it seem quite new as well. However, the input/output view can readily be adapted to the information economy. In the model above, the firm is at the centre of the productive system. As in the traditional model, the firm receives inputs; however, knowledge, technology and information are distinguished as a unique category. This can include patents and copyrights, software, information on production methods, etc. In addition, it is recognized that the other factors—labour, capital and materials—each have critical and increasing quantities of knowledge embodied in them.

The diagram then looks beyond the production inputs, to analyze their sources (the top row of boxes). For example, skilled labour may come from training courses in educational institutions, from in-house training, or from other provinces or countries. The sources for the inputs have been categorized as four "sectors." Within each sector, particular areas that bear on the production inputs are identified. These areas are the ones for which indicator variables have been sought out. The areas listed in bold, and checked, are the ones for which data are available and have been collected by BC Stats.

While the indicator variables have normally been sought out at the level of the source sectors, certain labour indicators, such as the unemployment rate, are not attributable to a single source sector. Such indicators have been grouped in a separate "Labour" section.

Once the inputs are obtained by the firm, they are transformed in a way that depends on the firm's many characteristics. Some of the characteristics of most importance for high technology firms are listed within the "The Firm" box in the diagram. [36]

Finally, the firm produces and sells goods and services, some of which are consumed locally, while the remainder are exported, as depicted in the bottom row. It should be recognized that even with a simplified model such as the one set out here, it is possible to imagine a large number of interactions. That is, almost every box or element within the boxes could be joined by an arrow to every other box or element. In turn, a complete statistical system based on the model would track the flows of people, dollars or information along each of the pathways (arrows). Such a comprehensive approach is neither practical, nor would it necessarily lead to greater understanding and better policy. However, statistics are available on a significant number of the interactions, providing a strong source for future research.

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[36] For an in-depth study of uses of knowledge within high technology firms, see Canada's 2002 Innovation Strategy reports: Knowledge Matters: Skills and Learning for Canadians and Achieving Excellence: Investing in People, Knowledge and Opportunity available at http://publications.gc.ca/site/eng/108190/publication.html and Schuetze, Hans, Innovation, Skills, and Learning: A Study of Knowledge and Human Resources Management in Small and Medium Sized Enterprises in British Columbia, Centre for Policy Studies in Education, University of British Columbia, March 1998.

Appendix II: Definitions of the High Technology Sector

The table below describes the North American Industry Classification System-based definition of the High Tech Sector in British Columbia. This is the most recent definition developed to describe B.C.'s high technology sector. More detail on the industries and why they are included can be found in *Profile of the British Columbia Technology Sector*, which is available at: www.bcstats.gov.bc.ca

TABLE 11: INDUSTRIES IN THE HIGH TECHNOLOGY SECTOR

NAICS	Industry Description
	Manufacturing Industries
325189	Other Inorganic Chemicals
325410	Pharmaceutical and Medicine
333310	Commercial and Service Industry
334110	Computer and Peripheral
334210	Telephone Apparatus
334220	Radio, Television Broadcasting & Wireless Communications Equipment
334290	Other Communications Equipment
334310	Audio and Video Equipment
334410	Semiconductor and Other Electronic Components
334511	Navigational and Guidance Instruments
334512	Measuring, Medical and Controlling Devices
334610	Manufacturing and Reproducing Magnetic and Optical Media
335315	Switchgear and Switchboard, and Relay and Industrial Control Apparatus
335920	Communication and Energy Wire and Cable

NAICS	Industry Description
335990	All Other Electrical Equipment and Component
336410	Aerospace Products and Parts
339110	Medical Equipment and Supplies
	Service Industries
511211	Software Publishers (Except Video Game Publishers)
511212	Video Game Publishers
512110	Motion Picture and Video Production
512190	Post-Production and Other Motion Picture and Video Industries
515210	Pay and Specialty Television
517111	Wired Telecommunications Carriers (Except Cable)
517112	Cable and Other Program Distribution
517210	Wireless Telecommunications Carriers (Except Satellite)
517410	Satellite Telecommunications
517910	Other Telecommunications
518210	Data Processing, Hosting and Related Services
519130	Internet Publishing and Broadcasting, and Web Search Portals
541330	Engineering
541360	Geophysical Surveying and Mapping Services
541370	Surveying and Mapping (Except Geophysical) Services
541380	Testing Laboratories
541514	Computer Systems Design and Related (Except Video Game Design and Development)
541515	Video Game Design and Development Services

NAICS	Industry Description
541620	Environmental Consulting
541690	Other Scientific and Technical Consulting
541710	Research and Development in Physical, Engineering and Life Sciences
541720	Research and Development in the Social Sciences and Humanities

Appendix III: Detailed Tables

Educational Indicators

INDICATOR E-1. PERCENTAGE OF THE POPULATION AGED 15 YEARS AND OLDER WITH A HIGH SCHOOL DIPLOMA

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	76.2%	77.0%	77.3%	78.3%	78.9%	79.4%	80.2%	80.8%	81.3%	82.0%	82.6%
NL	67.3%	68.8%	69.6%	70.2%	70.8%	71.5%	73.2%	73.7%	74.7%	76.2%	76.4%
PE	70.7%	71.8%	71.9%	72.6%	72.9%	74.5%	76.2%	76.8%	77.7%	78.6%	79.9%
NS	73.1%	74.0%	74.1%	75.4%	75.3%	75.9%	77.6%	78.0%	78.8%	79.9%	81.2%
NB	71.8%	72.3%	73.6%	73.8%	74.8%	75.5%	76.1%	75.5%	77.1%	77.3%	79.3%
QC	72.4%	73.6%	74.1%	75.1%	75.6%	76.0%	76.9%	77.7%	78.6%	79.0%	79.7%
ON	77.7%	78.2%	78.7%	79.6%	80.2%	80.5%	81.4%	82.0%	82.3%	83.1%	83.6%
MB	73.8%	74.5%	74.5%	74.7%	76.4%	77.1%	77.8%	78.8%	78.8%	79.3%	80.1%
SK	73.6%	74.5%	74.6%	75.4%	76.6%	77.9%	78.5%	78.9%	79.5%	81.1%	81.1%
AB	78.5%	79.8%	79.7%	81.0%	81.0%	82.0%	82.1%	82.5%	82.6%	83.2%	83.8%
BC	**80.7%**	**81.0%**	**80.8%**	**81.7%**	**82.6%**	**83.4%**	**83.9%**	**84.6%**	**84.6%**	**85.6%**	**86.2%**

Source: Statistics Canada

INDICATOR E-2. PERCENTAGE OF THE POPULATION AGED 15 YEARS AND OLDER WITH POST-SECONDARY CREDENTIALS

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	45.1%	46.4%	47.2%	48.3%	48.8%	49.1%	50.2%	51.0%	51.8%	52.2%	52.7%
NL	41.9%	43.5%	42.5%	43.5%	44.5%	46.0%	47.7%	49.1%	51.3%	51.9%	52.0%
PE	45.6%	45.1%	45.0%	44.6%	44.2%	45.8%	46.8%	49.1%	49.9%	50.3%	50.2%
NS	47.3%	47.0%	46.9%	47.2%	46.4%	48.6%	50.7%	50.3%	52.3%	52.6%	53.2%
NB	41.0%	41.2%	42.7%	43.1%	44.8%	45.0%	45.1%	45.4%	46.0%	46.7%	48.1%
QC	47.2%	48.8%	49.9%	50.7%	50.8%	51.2%	52.5%	53.5%	55.2%	55.2%	56.3%
ON	45.9%	47.5%	48.7%	50.1%	50.4%	50.5%	51.4%	52.1%	52.5%	53.1%	53.1%
MB	38.2%	38.8%	38.9%	38.7%	40.4%	41.1%	42.3%	42.3%	43.7%	43.3%	44.4%
SK	38.7%	39.2%	39.5%	40.2%	40.5%	41.2%	42.6%	43.1%	43.9%	44.6%	45.6%
AB	44.7%	46.5%	46.5%	47.6%	48.5%	49.5%	49.9%	50.2%	50.6%	50.9%	51.9%
BC	**44.5%**	**44.9%**	**45.4%**	**46.9%**	**47.5%**	**47.6%**	**48.9%**	**50.7%**	**51.0%**	**51.6%**	**51.7%**

Source: Statistics Canada

INDICATOR E-3, TABLE A. CANADA-WIDE RANK OF 13 YEAR-OLD ACHIEVEMENT IN SCIENCE

	2010	2010 rank	2013	2013 rank
Alberta	515	1	521	1
Ontario	510	2	511	2
British Columbia	**497**	**3**	**501**	**3**
Newfoundland and Labrador	487	7	500	4
Nova Scotia	489	5	492	5
Prince Edward Island	493	4	491	6
Saskatchewan	488	6	486	7
Quebec	486	9	485	8
New Brunswick	487	7	469	9
Manitoba	486	9	465	10
Canada	500	n/a	500	n/a

Source: Council of Ministers of Education, Canada

INDICATOR E-3, TABLE B. CANADA-WIDE RANK OF 13 YEAR-OLD ACHIEVEMENT IN MATHEMATICS

	2010	2010 rank	2013	2013 rank
Quebec	515	1	527	1
Ontario	507	2	512	2
Alberta	495	3	502	3
Prince Edward Island	460	10	492	4
British Columbia	**481**	**4**	**489**	**5**
Saskatchewan	474	6	488	6
Nova Scotia	474	6	488	6
Newfoundland and Labrador	472	8	487	8
New Brunswick	478	5	480	9
Manitoba	468	9	471	10
Canada	500	n/a	507	n/a

Source: Council of Ministers of Education, Canada

Notes for Indicators E-4 through E-8:

As of 2009, the college graduate counts are based on the calendar year to align with how university graduates are reported. For years prior to 2009, college graduate counts were based on an academic year. Due to the transition, some graduates reported in 2009 may have also been reported in 2008.

From 2005 to 2008, figures for the graduates from the University of Regina are not available and are therefore not included in the counts for Saskatchewan.

INDICATOR E-4, TABLE A. TOTAL BACHELOR DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	560.1	584.0	588.3	617.6	665.5	627.9	625.7	619.7	629.4	640.9	664.1
NL	535.6	529.7	556.5	633.2	638.8	605.3	586.4	564.7	579.3	576.5	597.8
PE	494.4	522.2	573.4	534.1	576.9	592.0	588.9	503.7	608.1	591.6	624.9
NS	819.2	860.0	877.9	930.8	1006.6	887.9	884.6	857.0	851.2	872.1	891.7
NB	590.4	640.3	682.9	723.3	700.5	714.4	687.6	645.2	669.6	631.7	655.4
QC	481.6	504.9	508.8	516.8	518.0	521.1	514.1	510.0	511.6	493.7	551.5
ON	614.3	640.0	661.7	704.0	810.9	763.8	732.1	735.9	751.2	772.5	783.2
MB	552.6	577.2	567.3	602.3	613.0	670.6	616.8	583.0	599.9	589.1	615.5
SK	570.5	559.4	372.9	371.8	367.2	376.7	547.1	420.4	482.9	484.9	522.8
AB	568.8	594.0	582.2	576.2	597.4	550.1	547.2	546.3	527.1	580.0	578.0
BC	**490.6**	**513.0**	**512.3**	**563.9**	**580.5**	**477.6**	**553.1**	**561.5**	**577.0**	**595.1**	**612.5**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-4, TABLE B. TOTAL BACHELOR DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	144,756	152,922	156,153	166,224	181,428	173,469	175,221	175,866	180,741	186,543	195,810
NL	2,322	2,301	2,415	2,739	2,760	2,631	2,577	2,511	2,595	2,595	2,700
PE	552	588	651	609	660	684	687	597	735	723	765
NS	6,369	6,732	6,897	7,350	7,950	7,038	7,047	6,873	6,864	7,053	7,212
NB	3,675	3,999	4,275	4,533	4,401	4,509	4,368	4,125	4,305	4,074	4,227
QC	29,823	31,557	32,121	32,976	33,438	34,035	33,999	34,164	34,656	33,783	38,052
ON	61,077	64,641	67,866	73,254	85,344	81,354	78,888	80,367	83,067	86,622	88,956
MB	5,130	5,421	5,373	5,751	5,892	6,498	6,036	5,769	6,003	5,982	6,333
SK	4,530	4,467	2,982	2,982	2,979	3,105	4,593	3,588	4,182	4,281	4,695
AB	14,517	15,486	15,633	15,990	17,082	16,125	16,437	16,650	16,317	18,429	18,939
BC	**16,764**	**17,727**	**17,946**	**20,040**	**20,922**	**17,490**	**20,592**	**21,219**	**22,017**	**22,989**	**23,913**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-5, TABLE A. TOTAL GRADUATE DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	127.2	140.4	139.1	142.6	146.1	149.6	157.2	164.9	168.5	174.2	182.4
NL	93.4	119.5	103.7	134.5	134.7	120.1	139.3	141.0	166.1	174.6	180.0
PE	21.5	29.3	29.1	81.6	49.8	59.7	66.9	43.0	91.8	68.7	85.8
NS	194.1	239.5	236.4	243.1	232.1	256.2	245.1	261.5	266.0	261.5	270.0
NB	74.2	89.3	92.0	87.6	87.4	93.6	100.6	93.8	96.6	121.0	113.0
QC	163.7	171.7	178.7	175.2	176.6	182.8	179.4	183.0	189.3	196.2	204.2
ON	129.8	137.7	140.2	139.8	143.9	155.6	168.6	182.0	187.5	189.3	193.3
MB	60.4	66.1	75.7	77.9	83.6	82.1	79.1	81.6	86.3	92.8	91.8
SK	86.5	87.9	62.3	62.1	61.4	71.0	115.8	114.2	126.8	85.6	189.8
AB	107.7	129.6	105.9	130.0	133.9	117.4	120.1	125.8	109.6	134.5	146.2
BC	**100.8**	**128.6**	**122.5**	**131.2**	**142.1**	**130.3**	**144.4**	**150.3**	**153.8**	**163.6**	**165.3**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-5, TABLE B. TOTAL GRADUATE DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	32,889	36,759	36,930	38,388	39,819	41,328	44,037	46,806	48,390	50,703	53,766
NL	405	519	450	582	582	522	612	627	744	786	813
PE	24	33	33	93	57	69	78	51	111	84	105
NS	1,509	1,875	1,857	1,920	1,833	2,031	1,953	2,097	2,145	2,115	2,184
NB	462	558	576	549	549	591	639	600	621	780	729
QC	10,137	10,731	11,280	11,181	11,400	11,940	11,862	12,261	12,822	13,425	14,088
ON	12,909	13,905	14,385	14,550	15,144	16,575	18,165	19,872	20,733	21,225	21,951
MB	561	621	717	744	804	795	774	807	864	942	945
SK	687	702	498	498	498	585	972	975	1,098	756	1,704
AB	2,748	3,378	2,844	3,609	3,828	3,441	3,609	3,834	3,393	4,272	4,791
BC	**3,444**	**4,443**	**4,290**	**4,662**	**5,121**	**4,770**	**5,376**	**5,679**	**5,868**	**6,318**	**6,456**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-6 (A), TABLE A. ARCHITECTURE, ENGINEERING AND RELATED TECHNOLOGY BACHELOR DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	45.2	45.8	44.7	46.2	49.0	47.7	44.7	46.2	47.5	47.4	51.1
NL	48.4	53.9	56.0	70.0	77.8	59.4	49.8	56.7	69.0	76.6	87.7
PE	-	2.7	-	-	2.6	2.6	-	-	-	-	-
NS	42.4	39.1	42.0	46.0	48.6	51.1	52.0	57.6	53.9	53.4	63.1
NB	32.3	34.6	37.4	45.0	45.4	55.1	44.9	42.7	39.7	42.3	50.2
QC	52.6	56.4	55.6	55.3	57.5	56.0	52.3	51.2	53.7	50.4	55.3
ON	52.4	51.7	51.0	52.9	57.6	54.6	49.5	52.0	52.2	53.8	56.9
MB	24.6	28.4	25.0	27.3	25.6	30.3	25.1	31.2	30.0	26.3	28.0
SK	47.2	45.5	31.9	31.8	31.4	33.8	40.0	34.4	41.9	48.3	47.8
AB	43.6	42.6	39.0	38.4	39.3	41.1	40.2	41.1	44.4	43.4	44.8
BC	**21.9**	**21.8**	**21.8**	**24.8**	**26.6**	**24.5**	**27.3**	**30.4**	**31.1**	**31.0**	**34.9**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-6 (A), TABLE B. ARCHITECTURE, ENGINEERING AND RELATED TECHNOLOGY BACHELOR DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	11,670	12,003	11,853	12,447	13,356	13,167	12,519	13,101	13,629	13,797	15,060
NL	210	234	243	303	336	258	219	252	309	345	396
PE	-	3	-	-	3	3	-	-	-	-	-
NS	330	306	330	363	384	405	414	462	435	432	510
NB	201	216	234	282	285	348	285	273	255	273	324
QC	3,258	3,528	3,513	3,531	3,711	3,657	3,459	3,432	3,636	3,450	3,816
ON	5,208	5,226	5,229	5,502	6,057	5,817	5,334	5,679	5,772	6,027	6,465
MB	228	267	237	261	246	294	246	309	300	267	288
SK	375	363	255	255	255	279	336	294	363	426	429
AB	1,113	1,110	1,047	1,065	1,125	1,206	1,209	1,254	1,374	1,380	1,467
BC	**750**	**753**	**765**	**882**	**960**	**897**	**1,017**	**1,149**	**1,188**	**1,197**	**1,362**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-6 (B), TABLE A. ARCHITECTURE, ENGINEERING AND RELATED TECHNOLOGY GRADUATE DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	16.1	19.0	19.5	19.2	19.2	19.2	20.2	21.1	22.3	24.2	26.4
NL	9.0	8.3	7.6	13.9	16.0	14.5	14.3	16.2	18.1	20.0	28.6
PE	-	-	-	-	-	-	-	-	-	-	-
NS	15.4	25.7	24.8	20.9	16.7	17.0	18.1	22.8	23.1	25.2	28.9
NB	8.7	12.0	16.3	13.9	12.9	10.5	10.9	13.1	12.1	12.6	11.6
QC	20.8	24.9	28.4	27.2	24.7	26.0	25.9	24.7	27.1	29.6	33.0
ON	17.0	19.2	19.4	19.0	19.4	20.3	22.6	24.6	25.6	26.8	28.7
MB	12.0	15.0	14.9	13.2	16.2	14.6	12.3	11.8	11.7	14.5	13.7
SK	9.8	13.9	9.8	9.7	9.6	7.6	13.2	12.7	14.2	12.2	22.4
AB	15.4	21.4	16.3	18.8	24.1	20.0	20.4	20.9	20.5	24.9	26.8
BC	**11.1**	**10.5**	**12.3**	**11.6**	**10.5**	**10.7**	**10.5**	**11.9**	**13.6**	**15.6**	**15.3**

- Not available or zero
* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-6 (B), TABLE B. ARCHITECTURE, ENGINEERING AND RELATED TECHNOLOGY GRADUATE DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	4,161	4,986	5,187	5,163	5,223	5,304	5,664	5,988	6,402	7,047	7,791
NL	39	36	33	60	69	63	63	72	81	90	129
PE	-	-	-	-	-	-	-	-	-	-	-
NS	120	201	195	165	132	135	144	183	186	204	234
NB	54	75	102	87	81	66	69	84	78	81	75
QC	1,290	1,557	1,791	1,734	1,596	1,698	1,716	1,656	1,833	2,025	2,274
ON	1,695	1,941	1,989	1,977	2,046	2,157	2,436	2,688	2,835	3,000	3,258
MB	111	141	141	126	156	141	120	117	117	147	141
SK	78	111	78	78	78	63	111	108	123	108	201
AB	393	558	438	522	690	585	612	636	636	792	879
BC	**378**	**363**	**432**	**411**	**378**	**390**	**390**	**450**	**519**	**603**	**597**

- Not available or zero
* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-7 (A), TABLE A. MATHEMATICS, COMPUTER AND INFORMATION SCIENCES BACHELOR DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	29.1	29.5	25.9	24.2	21.3	18.8	16.2	14.3	14.0	14.3	15.4
NL	18.7	14.5	19.4	15.3	15.3	13.1	13.0	10.1	11.4	11.3	12.0
PE	10.7	13.3	15.9	7.9	7.9	15.6	15.4	12.7	22.3	17.2	14.7
NS	37.0	38.3	41.6	33.4	24.3	25.0	23.3	18.0	17.9	16.0	16.7
NB	28.4	29.3	28.3	21.5	18.1	16.2	12.8	12.2	11.7	12.6	9.8
QC	16.4	14.7	12.7	11.7	9.5	10.2	7.8	7.6	7.4	7.6	7.6
ON	40.1	42.2	34.7	33.6	30.2	27.1	22.4	19.5	19.1	19.4	21.3
MB	14.9	19.5	15.8	17.0	14.0	17.3	12.9	12.4	12.9	13.0	13.4
SK	24.6	25.5	13.9	13.8	13.7	7.6	8.2	5.6	4.8	8.5	11.7
AB	23.2	24.2	26.3	22.1	20.1	15.5	14.0	13.5	12.6	12.6	13.3
BC	**30.5**	**28.5**	**26.8**	**25.2**	**22.4**	**15.6**	**17.7**	**15.0**	**14.2**	**15.1**	**16.7**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-7 (A), TABLE B. MATHEMATICS, COMPUTER AND INFORMATION SCIENCES BACHELOR DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	7,518	7,737	6,885	6,504	5,799	5,187	4,548	4,071	4,017	4,170	4,548
NL	81	63	84	66	66	57	57	45	51	51	54
PE	12	15	18	9	9	18	18	15	27	21	18
NS	288	300	327	264	192	198	186	144	144	129	135
NB	177	183	177	135	114	102	81	78	75	81	63
QC	1,014	918	801	744	612	666	519	507	501	522	522
ON	3,984	4,260	3,558	3,498	3,174	2,889	2,412	2,133	2,115	2,172	2,418
MB	138	183	150	162	135	168	126	123	129	132	138
SK	195	204	111	111	111	63	69	48	42	75	105
AB	591	630	705	612	576	453	420	411	390	399	435
BC	**1,041**	**984**	**939**	**897**	**807**	**570**	**660**	**567**	**540**	**585**	**651**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-7 (B), TABLE A. MATHEMATICS, COMPUTER AND INFORMATION SCIENCES GRADUATE DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	7.0	8.4	8.6	8.7	8.3	8.3	8.4	8.8	9.1	9.2	10.2
NL	2.8	2.1	1.4	5.5	4.9	5.5	4.1	4.0	4.0	4.0	5.3
PE	-	-	-	-	-	-	-	-	-	-	1.0
NS	11.6	14.2	18.3	16.0	12.2	12.9	13.6	11.2	12.3	13.4	13.4
NB	4.3	2.4	6.2	5.3	6.2	4.3	4.7	3.8	4.2	4.7	7.0
QC	8.1	9.3	9.5	9.4	8.8	8.6	8.2	7.8	8.7	8.5	10.3
ON	7.5	9.2	9.8	9.4	9.1	10.0	9.8	11.3	11.3	11.1	12.3
MB	2.3	2.6	2.9	2.8	3.1	2.5	2.1	2.4	1.8	3.0	3.5
SK	3.0	4.9	2.3	2.2	2.2	2.5	5.0	5.3	4.5	4.1	8.0
AB	6.1	8.7	7.2	9.2	8.2	7.7	8.2	6.9	7.1	7.7	7.6
BC	**6.9**	**7.7**	**7.8**	**7.9**	**8.6**	**6.9**	**7.6**	**9.0**	**8.8**	**9.8**	**9.5**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-7 (B), TABLE B. MATHEMATICS, COMPUTER AND INFORMATION SCIENCES GRADUATE DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	1,815	2,199	2,295	2,343	2,271	2,304	2,346	2,499	2,601	2,670	3,018
NL	12	9	6	24	21	24	18	18	18	18	24
PE	-	-	-	-	-	-	-	-	-	-	
NS	90	111	144	126	96	102	108	90	99	108	108
NB	27	15	39	33	39	27	30	24	27	30	45
QC	504	579	597	597	567	564	543	522	588	579	714
ON	744	930	1,005	981	957	1,062	1,056	1,230	1,254	1,248	1,395
MB	21	24	27	27	30	24	21	24	18	30	36
SK	24	39	18	18	18	21	42	45	39	36	72
AB	156	228	192	255	234	225	246	210	219	246	249
BC	**237**	**267**	**273**	**282**	**309**	**252**	**282**	**339**	**336**	**378**	**372**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-8 (A), TABLE A. PHYSICAL AND LIFE SCIENCES BACHELOR DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	45.2	44.0	47.3	50.6	56.5	53.4	53.3	50.6	51.7	52.0	53.9
NL	56.1	55.9	52.5	58.9	60.4	55.2	56.7	62.1	56.3	54.7	53.1
PE	64.5	85.3	92.5	78.9	78.7	96.1	59.1	60.7	59.6	71.2	76.0
NS	84.1	84.3	89.7	98.4	105.6	88.2	86.6	86.8	87.8	93.1	87.5
NB	43.9	45.2	42.7	46.9	43.5	52.3	40.1	38.9	37.8	38.6	42.3
QC	28.9	30.3	30.4	30.3	28.3	28.5	27.4	26.3	25.5	25.2	29.4
ON	51.8	51.4	54.8	58.0	75.0	69.6	70.5	64.4	66.4	66.8	67.4
MB	54.3	51.8	53.8	56.9	53.1	63.2	54.3	55.2	54.9	60.6	60.1
SK	34.8	31.6	24.4	24.3	24.0	32.4	50.4	35.1	39.5	36.0	36.7
AB	47.3	32.8	48.8	55.6	57.6	54.3	50.2	51.4	47.7	52.9	56.9
BC	**43.7**	**45.0**	**48.3**	**55.0**	**52.3**	**44.3**	**48.6**	**49.1**	**55.7**	**51.3**	**53.6**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-8 (A), TABLE B. PHYSICAL AND LIFE SCIENCES BACHELOR DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	11,670	11,514	12,546	13,626	15,408	14,748	14,940	14,352	14,832	15,141	15,900
NL	243	243	228	255	261	240	249	276	252	246	240
PE	72	96	105	90	90	111	69	72	72	87	93
NS	654	660	705	777	834	699	690	696	708	753	708
NB	273	282	267	294	273	330	255	249	243	249	273
QC	1,791	1,896	1,917	1,932	1,827	1,860	1,815	1,761	1,725	1,725	2,031
ON	5,154	5,193	5,619	6,039	7,890	7,413	7,599	7,029	7,344	7,485	7,650
MB	504	486	510	543	510	612	531	546	549	615	618
SK	276	252	195	195	195	267	423	300	342	318	330
AB	1,206	855	1,311	1,542	1,647	1,593	1,509	1,566	1,476	1,680	1,866
BC	**1,494**	**1,554**	**1,692**	**1,956**	**1,884**	**1,623**	**1,809**	**1,854**	**2,124**	**1,980**	**2,091**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-8 (B), TABLE A. PHYSICAL AND LIFE SCIENCES GRADUATE DEGREES AWARDED PER 100,000 PERSONS AGED 15 YEARS AND OLDER*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	12.4	12.9	12.8	13.7	13.9	14.2	14.9	15.7	15.4	16.4	16.0
NL	8.3	9.7	11.8	12.5	10.4	11.0	17.1	13.5	16.1	22.0	19.3
PE	-	-	-	-	-	-	-	-	7.4	12.3	12.3
NS	12.3	14.6	16.0	18.2	17.9	15.1	15.4	18.0	16.4	18.2	18.9
NB	6.3	8.2	9.1	8.1	8.6	8.6	6.6	7.0	7.9	10.2	9.3
QC	18.1	18.8	19.0	18.8	19.3	19.5	19.4	19.6	18.8	19.7	18.7
ON	12.0	12.7	12.4	13.6	13.7	14.4	15.8	17.3	17.5	18.3	17.4
MB	7.1	8.6	8.9	9.4	8.7	7.7	8.9	8.8	8.4	8.6	9.3
SK	8.3	7.1	5.6	5.6	5.5	8.0	10.7	8.8	10.7	8.5	12.7
AB	10.7	7.5	8.0	11.2	11.9	12.4	11.9	12.6	11.2	12.4	14.8
BC	**9.5**	**10.6**	**9.7**	**10.4**	**10.7**	**10.5**	**11.4**	**11.7**	**11.6**	**12.7**	**11.8**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-8 (B), TABLE B. PHYSICAL AND LIFE SCIENCES GRADUATE DEGREES AWARDED*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	3,216	3,366	3,393	3,684	3,786	3,927	4,179	4,443	4,428	4,764	4,731
NL	36	42	51	54	45	48	75	60	72	99	87
PE	-	-	-	-	-	-	6	6	9	15	15
NS	96	114	126	144	141	120	123	144	132	147	153
NB	39	51	57	51	54	54	42	45	51	66	60
QC	1,119	1,176	1,197	1,197	1,248	1,272	1,281	1,314	1,275	1,347	1,287
ON	1,191	1,287	1,275	1,419	1,446	1,539	1,698	1,884	1,932	2,052	1,977
MB	66	81	84	90	84	75	87	87	84	87	96
SK	66	57	45	45	45	66	90	75	93	75	114
AB	273	195	216	312	339	363	357	384	348	393	486
BC	**324**	**366**	**339**	**369**	**387**	**384**	**423**	**441**	**441**	**489**	**462**

- Not available or zero

* 2013 is the latest year for which information is available.

Source: Statistics Canada

INDICATOR E-9.(A) PERCENTAGE OF HOUSEHOLDS USING THE INTERNET*

	2010	2011	2012	2013
CANADA	78.4	80.5	81.5	83.9
NL	72.3	72.6	78.4	80.7
PE	72.8	72.7	75.0	80.5
NS	75.1	76.5	80.2	81.4
NB	69.2	72.6	76.6	78.6
QC	73.3	74.3	77.4	79.8
ON	80.2	82.4	82.6	84.6
MB	74.0	76.5	78.9	80.6
SK	73.7	78.8	79.2	80.9
AB	84.2	87.3	87.3	88.1
BC	**83.7**	**86.2**	**84.3**	**89.6**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-9 (B). PERCENTAGE OF HOUSEHOLDS USING WI-FI INTERNET*

	2010	2011	2012	2013
CANADA	5.3	8.1	13.3	15.9
NL	4.7	7.4	23.2	24.9
PE	10.1	11.6	25.5	19.9
NS	3.5	8.6	17.8	25.8
NB	5.3	9.4	16.7	21.3
QC	2.0	4.0	7.7	10.3
ON	6.2	8.5	13.3	16.0
MB	4.1	8.8	18.1	20.8
SK	8.3	17.2	30.0	24.8
AB	11.5	16.7	20.2	21.4
BC	**3.9**	**4.8**	**10.4**	**13.9**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-9 (C). PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO BROADBAND INTERNET SERVICE WITH DOWNLOAD SPEEDS OF 5 MBPS OR HIGHER

	2012	2013	2014
CANADA	91	94	96
NL	79	81	90
PE	71	89	99
NS	82	88	95
NB	89	89	95
QC	93	94	96
ON	95	97	99
MB	85	98	95
SK	75	81	88
AB	96	97	99
BC	**94**	**95**	**96**

Source: Industry Canada and CRTC

INDICATOR E-10, TABLE A. GROSS INCOME FROM TECHNOLOGY LICENSES AT U-15 UNIVERSITIES (IN $ THOUSANDS CDN)

INSTITUTION	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dalhousie U	-	148	297	516	618	536	618	588	609	232	330
U of Toronto	2,927	1,578	1,482	1,906	2,040	8,271	2,172	2,753	5,667	2,972	34,377
U of Ottawa	255	112	340	278	909	-	404	298	398	279	334
McMaster U	976	1,527	1,440	1,503	948	1,331	1,040	1,277	2,120	2,370	2,284
U of Western Ont.	1,089	4,186	4,778	3,937	3,999	4,243	4,538	4,346	4,247	5,346	4,578
Queens U	6,168	895	3,491	2,059	1,263	2,427	1,470	1,919	1,498	-	2,303
U of Waterloo	811	778	561	448	805	427	391	330	707	558	320
U of Montreal	1,725	-	1,120	831	790	496	1,078	1,152	5,087	3,945	2,453
McGill U	1,507	1,579	1,483	1,558	2,568	879	1,199	973	845	833	4,734
U Laval	280	352	-	1,352	1,510	2,041	2,546	1,534	1,339	1,418	3,085
U of Manitoba	2,177	1,677	2,835	2,213	1,755	2,148	2,062	2,277	1,608	2,022	1,080
U of Saskatchewan	1,178	1,091	1,300	1,245	2,209	5,618	6,546	7,015	8,799	10,023	14,962
U of Alberta	1,090	1,054	1,133	1,761	2,026	877	891	3,731	890	759	552
U of Calgary	3,308	3,433	4,397	4,963	4,922	5,700	6,229	5,208	5,564	3,692	1,744
U of BC	**13,735**	**15,723**	**15,674**	**13,354**	**6,429**	**5,606**	**5,513**	**8,626**	**7,633**	**4,968**	**5,696**

- Not available or zero

Source: Association of University Technology Managers

INDICATOR E-10, TABLE B. LICENSES AND OPTIONS YIELDING INCOME AT CANADIAN U-15 UNIVERSITIES (ACTUAL)

INSTITUTION	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dalhousie U	-	4	4	5	5	5	4	4	7	7	9
U of Toronto	32	53	55	58	53	53	63	58	60	51	65
U of Ottawa	9	8	11	10	9	7	12	9	9	7	15
McMaster U	59	86	78	100	110	110	91	109	159	176	154
U of Western Ont.	31	41	46	52	43	56	47	56	43	54	51
Queens U	35	43	42	37	37	41	43	43	38	-	40
U of Waterloo	37	28	16	11	14	18	8	8	7	9	7
U of Montreal	23	-	25	20	13	39	43	45	61	54	50
McGill U	79	54	69	90	77	81	67	97	76	57	55
U Laval	16	18	-	19	35	37	48	44	51	62	61
U of Manitoba	31	22	30	38	24	33	42	45	54	42	41
U of Saskatchewan	73	72	74	69	80	80	115	78	102	113	110
U of Alberta	46	32	49	49	53	40	49	42	47	46	32
U of Calgary	86	31	67	51	48	33	15	44	13	40	36
U of BC	**90**	**91**	**90**	**98**	**77**	**112**	**103**	**116**	**93**	**85**	**83**

- Not available or zero
Source: Association of University Technology Managers

INDICATOR E-10, TABLE C. GROSS INCOME PER TECHNOLOGY LICENSE AT U-15 UNIVERSITIES (IN $ THOUSANDS CDN)

INSTITUTION	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dalhousie U	-	37	74	103	124	107	154	147	87	33	37
U of Toronto	91	30	27	33	38	156	34	47	94	58	529
U of Ottawa	28	14	31	28	101	-	34	33	44	40	22
McMaster U	17	18	18	15	9	12	11	12	13	13	15
U of Western Ont.	35	102	104	76	93	76	97	78	99	99	90
Queens U	176	21	83	56	34	59	34	45	39	-	58
U of Waterloo	22	28	35	41	58	24	49	41	101	62	46
U of Montreal	75	-	45	42	61	13	25	26	83	73	49
McGill U	19	29	21	17	33	11	18	10	11	15	86
U Laval	17	20	-	71	43	55	53	35	26	23	51
U of Manitoba	70	76	95	58	73	65	49	51	30	48	26
U of Saskatchewan	16	15	18	18	28	70	57	90	86	89	136
U of Alberta	24	33	23	36	38	22	18	89	19	16	17
U of Calgary	38	111	66	97	103	173	415	118	428	92	48
U of BC	**153**	**173**	**174**	**136**	**83**	**50**	**54**	**74**	**82**	**58**	**69**

- Not available or zero
Source: Association of University Technology Managers

INDICATOR E-11. NUMBER OF U.S. PATENTS ISSUED TO U-15 UNIVERSITIES (ACTUAL)

INSTITUTION	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2010-2014
Dalhousie U	-	1	-	-	-	-	-	3	-	3	4	10
U of Toronto	4	8	15	16	15	7	14	22	13	10	17	76
U of Ottawa	5	3	6	8	3	7	2	9	8	13	10	42
McMaster U	7	2	2	6	3	10	4	3	5	5	2	19
U of Western Ont.	7	8	8	3	6	3	10	10	6	7	18	51
Queens U	7	8	6	10	9	9	8	10	10	-	19	47
U of Waterloo	-	-	1	-	1	1	2	2	1	4	5	14
U of Montreal	4		1	4	4	9	6	19	14	19	20	78
McGill U	30	10	15	19	8	12	17	10	22	19	23	91
U of Laval	11	3	-	20	4	6	9	7	7	10	22	55
U of Manitoba	6	8	2	7	8	1	3	3	3	9	7	25
U of Saskatchewan	4	12	6	8	5	4	8	9	6	7	4	34
U of Alberta	13	10	8	9	8	8	7	7	20	16	22	72
U of Calgary	6	10	7	14	3	3	7	8	8	8	8	39
U of BC	**18**	**25**	**14**	**18**	**13**	**13**	**16**	**13**	**14**	**21**	**32**	**96**

- Not available or zero
Source: Association of University Technology Managers

INDICATOR E-12. NUMBER OF UNIVERSITY START-UP COMPANIES FORMED (ACTUAL)

INSTITUTION	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dalhousie	-	-	-	-	1	-	1	-	-	3	2
U of Toronto	5	3	1	8	7	7	18	23	17	12	20
U of Ottawa	-	1	7	5	5	1	-	6	4	5	-
McMaster U	-	2	-	-	-	-	-	1	2	2	3
U of Western Ont.	1	5	3	3	-	6	3	2	3	6	-
Queens U	6	3	1	1	-	-	1	1	1	-	1
U of Waterloo	7	2	2	2	1	5	5	4	9	11	12
U of Montreal	2	-	-	1	1	1	1	3	1	2	4
McGill U	5	1	1	1	2	1	-	1	-	1	6
U of Laval	-	-	-	1	1	4	-	-	2	1	-
U of Manitoba	1	-	2	2	-	2	-	-	-	-	2
U of Saskatchewan	3	-	-	1	2	-	2	1	-	-	2
U of Alberta	3	2	3	4	2	2	4	4	1	5	5
U of Calgary	-	-	-	-	1	-	2	1	1	1	4
U of BC	**2**	**2**	**3**	**5**	**4**	**7**	**3**	**9**	**4**	**5**	**3**

- Not available or zero
Source: Association of University Technology Managers

SIMON FRASER UNIVERSITY GROSS INCOME FROM TECHNOLOGY LICENSES (IN $ '000 CDN), U.S. PATENTS ISSUED AND START-UP COMPANIES FORMED

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Technology License Income ('000)	152	343	182	297	337	1,530	1,530	1,412	160	988	251
US Patents Issued	3	10	2	2	-	2	-	5	9	10	4
Start-Up companies formed	3	1	-	3	3	-	2	-	-	1	1

- Not available or zero
Source: Association of University Technology Managers

UNIVERSITY OF VICTORIA GROSS INCOME FROM TECHNOLOGY LICENSES (IN $ '000 CDN), U.S. PATENTS ISSUED AND START-UP COMPANIES FORMED

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Technology License Income ('000)	148	124	89	153	207	260	480	544	453	99	350
US Patents Issued	4	3	5	3	1	2	5	7	4	27	1
Start-Up companies formed	-	2	1	7	6	1	-	3	1	-	-

-Not available or zero
Source: Association of University Technology Managers

INDICATOR E-13. RATIO OF HIGHER EDUCATION PERFORMANCE OF R&D TO GDP (%)*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	0.65	0.68	0.67	0.65	0.65	0.66	0.69	0.68	0.67	0.71	0.67
NL	0.62	0.59	0.67	0.50	0.47	0.46	0.61	0.57	0.63	0.82	0.57
PE	0.68	0.62	0.65	0.71	0.74	0.78	0.83	0.81	0.72	0.80	0.66
NS	0.87	0.86	0.92	0.97	0.96	0.96	0.97	1.00	0.96	1.06	1.00
NB	0.52	0.47	0.51	0.51	0.52	0.53	0.55	0.51	0.50	0.57	0.56
QC	0.90	0.91	0.91	0.87	0.85	0.89	0.83	0.85	0.89	0.90	0.91
ON	0.63	0.72	0.72	0.71	0.72	0.76	0.76	0.73	0.74	0.78	0.76
MB	0.63	0.64	0.69	0.62	0.61	0.60	0.65	0.64	0.61	0.58	0.62
SK	0.65	0.59	0.48	0.46	0.44	0.47	0.51	0.52	0.38	0.47	0.37
AB	0.48	0.46	0.43	0.38	0.39	0.38	0.48	0.45	0.41	0.43	0.39
BC	**0.53**	**0.52**	**0.52**	**0.51**	**0.55**	**0.56**	**0.59**	**0.61**	**0.57**	**0.64**	**0.57**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR E-14. RESEARCH GRANTS AND AWARDS FUNDED BY THE CANADIAN INSTITUTES OF HEALTH RESEARCH, UP TO FUNDING YEAR 2016/17

	# awarded	total $ amount	average $ amount	funding per capita
CANADA	47,058	13,341,712,405	283,516	$368
NL	415	66,692,407	160,705	$126
PE	81	8,543,936	105,481	$57
NS	1,319	316,242,353	239,759	$333
NB	167	16,434,710	98,411	$22
QC	12,597	3,685,946,205	292,605	$441
ON	18,528	5,670,510,170	306,051	$407
MB	1,400	326,812,456	233,437	$249
SK	1,032	167,640,603	162,442	$145
AB	4,619	1,251,663,523	270,981	$296
BC	**6,109**	**1,740,739,320**	**284,947**	**$368**

Notes: Grant and Award funding for funding year 2016/17 were approved in 2015/16.
Totals include cumulative funding from inception (2000) up to and including fiscal year 2016/17.
Canada total includes Territories.
Per capita is calculated using projected population for 2016.
Source: Canadian Institutes of Health Research

INDICATOR E-15 RESEARCH PROJECTS FUNDED BY THE CANADIAN FOUNDATION FOR INNOVATION, UP TO FUNDING YEAR 2014/15

	# of projects	total $ amount	average $ amount	funding per capita
TOTAL	9,111	$5,413,640,644	$594,187	$152
NL	140	$54,891,292	$392,081	$104
PE	32	$9,617,716	$300,554	$66
NS	421	$119,927,853	$284,864	$127
NB	177	$28,692,208	$162,103	$38
QC	2,353	$1,330,300,339	$565,364	$162
ON	3,399	$2,369,971,827	$697,256	$173
MB	305	$94,420,066	$309,574	$74
SK	337	$238,080,141	$706,469	$212
AB	818	$452,392,184	$553,047	$110
BC	**1,129**	**$715,347,018**	**$633,611**	**$154**

Note: Total includes sum of provinces, cumulative funding since program onset (1997) up to and including fiscal year 2014/15.
Per Capita is calculated using population as at July 1st, 2014.
Source: Canadian Foundation for Innovation

INDICATOR E-16. GRANT AND SCHOLARSHIP EXPENDITURES FUNDED BY THE NATIONAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA, 2005/06 TO 2010/11*

	# of projects	total $ amount	average $ amount	funding per capita
TOTAL	481,258	17,141,619,844	35,618	$482
NL	6,946	221,091,545	31,830	$418
PE	1,117	31,582,973	28,275	$216
NS	18,107	558,787,914	30,860	$593
NB	9,065	250,967,935	27,685	$333
QC	102,426	3,936,826,308	38,436	$479
ON	173,314	6,136,766,175	35,408	$449
MB	12,996	419,073,318	32,246	$327
SK	13,263	586,151,070	44,194	$522
AB	45,215	1,647,673,391	36,441	$400
BC	**58,178**	**2,274,026,301**	**39,087**	**$490**

Note: Total includes sum of provinces, cumulative funding since program onset (1991/92) up to and including fiscal year 2014/15.
Per Capita is calculated using population as at July 1st, 2014.
Source: The National Sciences and Engineering Research Council of Canada

INDICATOR E-17. CANADA RESEARCH CHAIRS, PROVINCIAL DISTRIBUTION, 2015*

	Total active Chairs	Chairholders from outside Canada	% female chairholders
TOTAL	1,690	205	28%
NL	15	1	27%
PE	4	1	50%
NS	64	15	34%
NB	23	2	30%
QC	460	40	25%
ON	657	49	28%
MB	44	4	30%
SK	34	3	24%
AB	148	14	25%
BC	**241**	**76**	**35%**

*As counted in January 2016
Note: Total includes sum of provinces only.
Source: Canada Research Chairs Program

Business Indicators

INDICATOR B-1. PATENTS AWARDED PER 100,000 POPULATION*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	4.07	4.57	4.64	5.18	5.51	5.49	6.22	5.82	6.75	6.87	7.54
NL	0.96	0.77	0.78	1.18	1.18	1.37	1.35	1.15	0.19	0.76	1.33
PE	0.73	0.73	2.17	0.00	1.45	1.44	0.71	0.00	0.00	2.07	1.38
NS	1.39	1.28	2.03	2.13	1.82	2.78	1.71	2.23	2.12	2.54	2.55
NB	2.00	1.73	1.34	1.34	1.34	1.61	1.73	1.73	1.19	2.51	3.44
QC	4.84	4.51	4.38	4.56	5.38	4.52	5.39	5.15	5.84	6.28	6.66
ON	3.89	4.79	4.68	5.72	5.91	6.08	6.82	6.73	8.21	8.13	8.91
MB	3.78	3.24	3.90	3.46	3.62	3.01	3.72	3.44	3.57	5.36	6.16
SK	2.51	4.91	6.14	6.15	4.19	4.62	3.87	5.90	3.75	5.24	5.70
AB	6.72	8.52	8.82	9.53	10.24	11.35	13.35	10.72	12.69	11.47	13.35
BC	**3.20**	**3.08**	**3.36**	**3.56**	**3.82**	**3.49**	**3.79**	**3.22**	**3.67**	**3.74**	**3.58**

* 2013 is the latest year for which information is available.
Source: Canadian Intellectual Property Office

INDICATOR B-2. PATENTS GRANTED AS A PERCENT OF PATENT APPLICATIONS*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	25	27	29	33	34	35	41	39	44	53	55
NL	24	19	20	29	38	32	39	27	7	25	41
PE	25	20	60	0	33	100	11	0	0	43	33
NS	22	24	31	38	40	33	25	30	26	45	44
NB	37	24	24	24	22	27	30	27	20	73	79
QC	27	23	24	26	32	30	37	36	40	58	61
ON	21	27	27	34	32	32	40	40	46	51	50
MB	47	37	36	35	29	41	38	34	42	63	72
SK	26	40	47	46	32	39	40	46	33	48	49
AB	30	35	38	47	46	52	64	47	56	60	74
BC	**23**	**22**	**26**	**28**	**31**	**30**	**28**	**28**	**38**	**42**	**39**

* 2013 is the latest year for which information is available.
Source: Canadian Intellectual Property Office

INDICATORS B-3, B-4 AND B-5. NUMBER OF ESTABLISHMENTS, ENTRIES, EXITS AND HIGH GROWTH COMPANIES
TOTAL B.C. ECONOMY

	2007	2008	2009	2010	2011	2012	2013	2014
Establishments	172,372	175,003	176,124	175,913	173,588	175,885	183,667	178,324
Entries		19,628	20,784	18,197	16,382	22,407	26,514	23,251
Exits		16,997	19,663	18,408	18,706	20,110	18,732	28,594
High Growth Companies		**980**	**958**	**1,041**	**1,031**	**1,004**	**1,622**	**1,182**

HIGH TECHNOLOGY SECTOR

	2007	2008	2009	2010	2011	2012	2013	2014
Establishments	8,644	8,832	8,903	8,885	8,757	9,010	9,738	9,720
Entries		1,311	1,307	1,196	1,113	1,682	1,923	1,868
Exits		1,123	1,236	1,214	1,241	1,429	1,195	1,886
High Growth Companies		**50**	**46**	**41**	**64**	**45**	**124**	**62**

Source: BC Stats

INDICATORS B-6 AND B-7. CANADIAN VENTURE CAPITAL INVESTMENT BY PROVINCE OF INVESTMENT, 2015*

	$ millions	Share (%)	Per Capita ($)
CANADA	2,259	100.0	64.15
NL	3	0.1	5.68
PEI	4	0.2	27.31
NS	51	2.3	54.08
NB	8	0.4	10.61
QC	693	30.7	83.86
ON	939	41.6	68.08
MB	4	0.2	3.09
SK	3	0.1	2.65
AB	104	4.6	24.78
BC	**450**	**19.9**	**96.09**

* 2015 is currently the latest and only year for which information is available.
Source: Canadian Venture Capital Association

INDICATOR B-8. RATIO OF BUSINESS PERFORMANCE OF R&D TO GDP (%)*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	1.13	1.14	1.11	1.11	1.07	1.01	1.02	0.95	0.95	0.91	0.85
NL	0.17	0.15	0.39	0.38	0.30	0.29	0.35	0.23	0.22	0.30	0.23
PE	0.18	0.17	0.27	0.27	0.28	0.31	0.26	0.23	0.24	0.42	0.35
NS	0.26	0.30	0.30	0.32	0.31	0.30	0.31	0.24	0.23	0.21	0.15
NB	0.28	0.34	0.39	0.39	0.44	0.43	0.44	0.34	0.33	0.22	0.19
QC	1.61	1.59	1.49	1.66	1.60	1.53	1.51	1.45	1.43	1.31	1.29
ON	1.47	1.48	1.48	1.42	1.35	1.30	1.24	1.14	1.17	1.11	1.01
MB	0.39	0.45	0.47	0.41	0.42	0.35	0.41	0.42	0.38	0.39	0.38
SK	0.23	0.27	0.34	0.37	0.37	0.22	0.26	0.26	0.28	0.27	0.34
AB	0.51	0.59	0.54	0.58	0.56	0.55	0.64	0.57	0.62	0.69	0.59
BC	**0.79**	**0.82**	**0.81**	**0.73**	**0.82**	**0.83**	**0.83**	**0.80**	**0.78**	**0.71**	**0.71**

* 2013 is the latest year for which information is available
Source: Statistics Canada

TOTAL INTRAMURAL RESEARCH AND DEVELOPMENT EXPENDITURES BY PROVINCE, BY INDUSTRY, 2013 ($ MILLIONS)*

	ATLANTIC	QC	ON	MB	SK	AB	BC	Total
Agriculture, Forestry, Fishing, Hunting	x	26	22	1	3	8	x	81
Mining and Oil & Gas Extraction	x	51	81	x	113	1,076	231	1,585
Utilities	x	x	x	x	x	5	x	232
Construction	x	x	x	x	2	12	x	68
Manufacturing	65	2,644	3,312	73	61	215	384	6,753
Pharmaceutical & Medicine	6	128	250	x	x	x	14	403
Computer & Peripheral Equipment	x	13	28	x	x	1	17	60
Communications Equipment	x	107	1,169	x	x	x	24	1,314
Semiconductor & Other Electronic Components	x	75	286	1	x	6	85	455
Navigational, Measuring, Medical & Control Instruments	6	100	199	x	x	15	39	360
Other Computer & Electronic Products	x	14	8	x	x	x	x	29
Aerospace Products & Parts	x	1,233	320	x	x	3	x	1,573
Services	109	1,797	3,472	154	103	687	993	7,313
Information & Cultural Industries	14	262	641	80	6	86	159	1,249
Computer System Design & Related	23	421	614	21	7	47	244	1,377
Architectural, Engineering & Related	7	89	198	1	11	83	52	441
Management, Scientific & Technical Consulting	1	18	28	x	x	18	14	81
Scientific Research & Development	27	593	751	11	27	108	320	1,836
TOTAL	**222**	**4,665**	**6,999**	**232**	**283**	**2,001**	**1,630**	**16,032**

*2013 is the latest year for which information is available.
x denotes data suppression. Numbers may not add due to rounding.
Total includes Yukon, Northwest Territories and Nunavut.
Source: Statistics Canada

Government Indicators

INDICATOR G-1. INDEX OF ALL TAXES PAID BY UNATTACHED INDIVIDUALS EARNING $80,000 PER YEAR ($)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NL	29,120	28,687	26,449	24,991	24,929	24,539	24,188	24,064	24,011	24,010	23,525
PE	26,427	25,956	24,921	24,133	24,448	24,406	24,320	24,397	24,467	24,329	23,928
NS	27,479	27,453	25,340	25,690	25,742	26,088	25,890	25,877	25,891	25,907	25,535
NB	25,377	25,482	24,897	23,506	23,177	22,997	22,778	22,670	23,661	23,572	23,129
QC	33,779	33,024	30,880	30,951	30,986	31,179	31,282	31,455	31,314	31,309	31,010
ON	25,943	25,369	24,742	24,506	24,687	24,701	24,259	24,125	24,109	24,026	23,613
MB	27,112	26,437	25,787	26,360	26,321	26,306	26,000	26,027	26,250	26,354	25,377
SK	26,041	25,952	23,212	23,302	23,472	23,289	22,951	22,815	22,818	22,866	22,453
AB	21,710	21,272	20,350	19,885	19,949	19,966	19,837	19,777	19,827	19,797	19,487
BC	**21,497**	**20,731**	**19,961**	**19,553**	**19,952**	**19,990**	**19,741**	**19,512**	**19,560**	**19,569**	**19,153**

Source: B.C. Ministry of Finance

INDICATOR G-2. SMALL BUSINESS TAX RATE (%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NL	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0
PE	7.5	5.4	4.3	2.1	1.0	1.0	1.0	1.0	4.5	4.5	4.5
NS	5.0	5.0	5.0	5.0	5.0	4.5	4.0	3.5	3.0	3.0	3.0
NB	2.0	1.0	5.0	5.0	5.0	5.0	4.5	4.5	4.5	4.0	4.0
QC	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
ON	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5
MB	4.5	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SK	5.0	4.5	4.5	4.5	4.5	4.5	2.0	2.0	2.0	2.0	2.0
AB	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
BC	**4.5**	**4.5**	**4.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**

Source: B.C. Ministry of Finance

INDICATOR G-3. GENERAL CORPORATE INCOME TAX RATE (%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NL	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
PE	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
NS	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
NB	13.0	12.0	13.0	12.0	12.0	11.0	10.0	10.0	12.0	12.0	12.0
QC	8.9	9.9	11.4	11.4	11.9	11.9	11.9	11.9	11.9	11.9	11.9
ON	14.0	14.0	14.0	14.0	14.0	12.0	11.5	11.5	11.5	11.5	11.5
MB	15.0	14.0	14.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
SK	17.0	13.0	13.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
AB	11.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	12.0
BC	**12.0**	**12.0**	**12.0**	**11.0**	**10.5**	**10.0**	**10.0**	**10.0**	**11.0**	**11.0**	**11.0**

Source: B.C. Ministry of Finance

INDICATOR G-4. COMBINED FEDERAL AND PROVINCIAL PERFORMANCE OF R&D AS A % OF GDP*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	0.19	0.18	0.19	0.19	0.19	0.18	0.20	0.20	0.17	0.16	0.16
NL	0.15	0.14	0.15	0.12	0.11	0.08	0.10	0.08	0.06	0.05	0.06
PE	0.31	0.25	0.68	0.59	0.28	0.29	0.30	0.29	0.28	0.25	0.28
NS	0.24	0.28	0.22	0.24	0.23	0.22	0.19	0.19	0.14	0.13	0.21
NB	0.15	0.12	0.12	0.13	0.21	0.17	0.17	0.13	0.12	0.12	0.13
QC	0.17	0.17	0.19	0.18	0.15	0.16	0.15	0.13	0.11	0.10	0.11
ON	0.27	0.24	0.27	0.28	0.28	0.29	0.32	0.36	0.29	0.27	0.26
MB	0.18	0.19	0.20	0.19	0.18	0.18	0.24	0.22	0.20	0.20	0.22
SK	0.17	0.16	0.18	0.18	0.15	0.12	0.20	0.17	0.11	0.15	0.15
AB	0.11	0.12	0.11	0.11	0.10	0.09	0.10	0.09	0.08	0.08	0.08
BC	**0.06**	**0.07**	**0.06**	**0.06**	**0.07**	**0.06**	**0.07**	**0.05**	**0.05**	**0.05**	**0.06**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR G-5. TOTAL EXPENDITURES (PRIVATE AND PUBLIC SECTOR) ON R&D AS A % OF GDP*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CANADA	1.99	2.01	1.99	1.96	1.92	1.87	1.92	1.84	1.80	1.79	1.69
NL	0.94	0.88	1.20	1.00	0.88	0.82	1.06	0.87	0.91	1.17	0.86
PE	1.15	1.04	1.59	1.57	1.30	1.38	1.39	1.33	1.22	1.49	1.28
NS	1.37	1.45	1.44	1.54	1.50	1.48	1.48	1.42	1.32	1.40	1.36
NB	0.95	0.94	1.02	1.03	1.16	1.13	1.16	0.97	0.95	0.91	0.88
QC	2.68	2.67	2.59	2.72	2.60	2.58	2.49	2.42	2.44	2.32	2.31
ON	2.37	2.44	2.47	2.41	2.35	2.35	2.32	2.23	2.20	2.16	2.02
MB	1.19	1.28	1.37	1.22	1.22	1.13	1.30	1.29	1.19	1.17	1.22
SK	1.06	1.02	1.01	1.02	0.96	0.80	0.97	0.94	0.78	0.89	0.86
AB	1.10	1.17	1.08	1.06	1.05	1.02	1.21	1.10	1.11	1.19	1.07
BC	**1.38**	**1.40**	**1.39**	**1.30**	**1.44**	**1.44**	**1.49**	**1.47**	**1.40**	**1.41**	**1.33**

* 2013 is the latest year for which information is available.
Source: Statistics Canada

PROFILE OF THE B.C. TOTAL EXPENDITURES ON R&D ($ MILLION)*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Business Enterprise	1,171	1,324	1,402	1,364	1,616	1,685	1,620	1,658	1,687	1,583	1,624
Higher Education & Private Non-Profit	784	832	904	959	1,083	1,136	1,151	1,256	1,248	1,435	1,304
Federal Govt	80	91	91	91	108	93	115	93	102	93	118
Provincial Government & Research Institutions	15	16	18	18	30	33	25	19	16	22	19

* 2013 is the latest year for which information is available.
Source: Statistics Canada

External Indicators

INDICATOR X-1. PERCENTAGE OF IMMIGRANTS AGED 25 YEARS AND OLDER WITH 16 OR MORE YEARS OF EDUCATION

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	47.3	46.9	44.9	44.9	46.3	44.1	45.9	41.4	34.8	37.7	42.2
NL	45.9	45.5	52.5	47.2	52.7	57.2	53.3	46.6	28.7	37.0	40.3
PE	52.5	51.6	40.1	36.3	37.4	33.8	31.8	37.2	30.3	36.4	54.2
NS	58.0	57.2	54.3	50.2	57.5	51.1	52.5	44.6	36.5	47.5	47.5
NB	49.6	52.4	55.8	49.3	52.5	50.2	46.7	40.4	38.4	39.4	44.3
QC	53.1	53.1	51.9	54.1	55.4	53.2	53.7	46.6	36.9	43.2	49.3
ON	47.2	46.6	43.6	43.0	44.8	43.1	46.7	42.9	37.4	37.3	42.0
MB	29.2	29.2	26.9	25.1	28.2	25.6	27.2	27.4	26.6	33.3	38.2
SK	48.3	43.9	41.6	32.8	32.5	28.5	30.7	29.9	23.3	37.9	40.4
AB	43.8	44.0	44.5	42.9	44.6	43.4	42.1	37.6	30.6	34.1	37.5
BC	**44.9**	**45.3**	**44.6**	**45.5**	**45.9**	**42.7**	**45.3**	**41.3**	**34.3**	**35.6**	**39.9**

Canada is sum of provinces (excludes Territories & unknown)
Source: Citizenship and Immigration Canada

INDICATOR X-2. MEDIAN YEARS OF SCHOOLING OF IMMIGRANTS AGED 25 YEARS AND OLDER

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	15.9	15.9	15.7	15.7	15.8	15.7	15.8	15.7	15.8	15.9	16.0
NL	15.7	15.6	16.3	16.0	16.5	16.8	16.5	16.2	15.4	15.9	15.5
PE	16.2	16.1	15.2	14.8	15.0	14.7	14.9	15.3	14.8	15.4	16.3
NS	16.5	16.4	16.4	16.3	16.5	16.3	16.4	16.2	16.3	16.4	16.3
NB	16.1	16.2	16.3	16.0	16.2	16.1	15.8	15.6	16.1	15.8	15.9
QC	16.3	16.3	16.2	16.3	16.5	16.4	16.5	16.4	16.3	16.5	16.5
ON	15.9	15.9	15.6	15.6	15.7	15.6	15.9	15.8	15.8	15.8	16.1
MB	14.4	14.4	14.4	14.3	14.3	14.2	14.4	14.6	15.0	15.2	15.5
SK	16.0	15.6	15.0	14.4	14.5	14.3	14.6	14.7	14.8	15.7	15.5
AB	15.6	15.7	15.7	15.6	15.7	15.6	15.5	15.3	15.2	15.4	15.4
BC	**15.7**	**15.8**	**15.7**	**15.8**	**15.8**	**15.5**	**15.8**	**15.7**	**15.7**	**15.6**	**15.8**

Canada is sum of provinces (excludes Territories & unknown)
Source: Citizenship and Immigration Canada

INDICATOR X-3. NET INTER-PROVINCIAL MIGRATION (NUMBER OF PERSONS) *

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
NL	-3,710	-4,342	-4,067	-528	1,877	1,558	30	545	495	234	-1,398
PE	-139	-639	-849	-291	-536	60	-210	-618	-901	-941	-1,243
NS	-3,041	-3,024	-4,126	-1,794	-751	612	-41	-2,866	-3,517	-2,571	-1,286
NB	-2,074	-3,487	-2,632	-908	-237	571	-158	-1,806	-3,290	-3,517	-2,800
QC	-4,963	-9,411	-12,865	-11,682	-7,419	-3,258	-4,763	-6,915	-10,431	-14,312	-14,656
ON	-11,172	-17,501	-20,047	-14,750	-15,601	-4,662	-4,007	-10,611	-13,901	-14,564	-8,763
MB	-7,227	-7,881	-5,500	-3,703	-3,111	-2,412	-3,517	-4,212	-5,006	-6,851	-7,759
SK	-9,515	-7,083	1,549	4,171	2,983	2,153	545	1,878	392	-1,839	-3,200
AB	34,423	45,795	33,809	15,317	13,184	-3,271	8,443	27,652	38,598	35,382	28,921
BC	**8,214**	**8,800**	**15,005**	**14,643**	**9,995**	**8,728**	**3,421**	**-2,711**	**-1,868**	**9,475**	**12,413**

* Dates for this indicator are in Census years, such that '2015' refers to the July 1st, 2014 to June 30th, 2015 period.
Source: Statistics Canada

INDICATOR X-4. VALUE OF HIGH TECHNOLOGY IMPORTS TO B.C. BY COMMODITY TYPE ($ MILLION)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Biotechnology	34.3	35.3	43.8	59.9	84.9	100.9	152.4	157.0	184.4	240.4	279.4
Life Sciences	455.6	475.2	496.7	506.0	603.5	602.3	773.1	651.6	735.5	737.7	760.0
Opto-Electronics	123.5	205.1	299.6	337.9	403.7	285.7	363.8	331.6	282.1	264.3	276.0
Computers & Telecommunications	2,394.1	2,425.3	2,359.8	2,750.2	2,816.7	2,346.9	3,172.6	3,120.9	3,223.9	3,269.2	3,380.3
Electronics	140.5	245.6	253.2	253.6	278.3	269.7	428.4	345.6	323.5	389.1	329.5
Computer Integrated Manufacturing	188.5	181.8	195.8	159.6	149.2	143.7	199.9	191.2	180.6	173.5	199.9
Material Design	26.6	17.1	24.3	18.0	29.1	21.4	42.4	45.8	49.2	50.7	56.9
Aerospace	361.5	590.9	385.3	537.2	588.4	457.5	535.1	473.2	534.5	671.5	817.6
Weapons and Nuclear	39.5	15.3	19.7	16.8	18.4	20.0	25.5	25.6	23.2	22.6	15.2
Total	**3,764.1**	**4,191.7**	**4,078.2**	**4,639.3**	**4,971.9**	**4,248.2**	**5,693.3**	**5,342.5**	**5,536.9**	**5,819.0**	**6,114.8**

Source: BC Stats

Labour Indicators

INDICATOR L-1. UNEMPLOYMENT RATE FOR NATURAL AND APPLIED SCIENCE OCCUPATIONS (%)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CANADA	2.9	2.6	3.0	3.0	4.6	3.7	2.9	3.2	3.1	3.0	3.2
NL	9.5	5.1	6.4	7.9	6.0	6.3	4.3	5.2	5.1	4.4	6.6
PE	5.0	4.5	5.1	5.9	5.7	4.8	7.0	6.8	7.0	7.0	4.3
NS	5.0	4.5	3.1	3.3	5.7	4.8	5.1	4.3	5.0	3.0	3.5
NB	5.6	4.4	2.8	3.8	3.5	3.6	2.8	5.3	5.5	4.3	3.5
QC	3.5	3.7	3.0	3.6	4.4	3.4	2.6	3.0	3.4	3.7	3.0
ON	2.7	2.2	3.5	3.2	4.9	3.7	3.3	3.3	3.1	2.9	2.9
MB	-	2.5	1.8	1.5	2.2	2.9	2.1	2.5	2.0	2.0	2.0
SK	-	2.3	-	2.2	2.3	2.4	-	3.0	2.1	1.7	2.7
AB	1.6	1.8	1.9	1.6	4.3	3.8	2.2	2.4	2.1	2.2	4.8
BC	**2.9**	**2.3**	**2.3**	**2.0**	**5.3**	**3.7**	**2.6**	**3.7**	**3.2**	**3.1**	**2.6**

- Data not available
Source: Statistics Canada

INDICATOR L-2. FTE RESEARCH WORKFORCE PER 100,000 POPULATION, 2012 AND 2013*

	Federal		Provincial		Business		Higher education		TOTAL	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
CANADA	47	44	8	8	429	397	205	213	665	645
NL	32	32	0	0	137	125	230	242	387	362
PE	62	62	21	21	145	165	131	138	379	330
NS	43	49	0	0	133	108	204	195	356	320
NB	30	28	4	4	157	123	144	176	300	290
QC	27	28	10	10	589	543	247	251	832	805
ON	77	70	4	4	508	476	208	208	770	730
MB	60	55	9	8	162	158	172	185	400	399
SK	61	52	25	25	174	147	194	255	430	466
AB	21	20	21	22	241	215	192	221	456	485
BC	**15**	**14**	**3**	**3**	**361**	**340**	**190**	**192**	**551**	**541**

FTE: full time equivalent position
* 2013 is the latest year for which information is available.
Source: Statistics Canada

STRUCTURE OF THE RESEARCH WORKFORCE BY SECTOR IN 2013 (%)*

	Federal	Provincial	Business	Higher education	Total FTE
CANADA	6.8	1.2	61.5	33.0	226,620
NL	8.9	0.1	34.6	67.0	1,910
PE	18.8	6.3	50.0	41.7	480
NS	15.2	0.0	33.8	60.9	3,020
NB	9.6	1.4	42.5	60.7	2,190
QC	3.5	1.2	67.4	31.2	65,620
ON	9.6	0.5	65.2	28.5	98,920
MB	13.7	2.0	39.6	46.3	5,050
SK	11.2	5.4	31.6	54.7	5,160
AB	4.2	4.5	44.3	45.6	19,420
BC	**2.7**	**0.6**	**62.8**	**35.5**	**24,780**

FTE: full time equivalent position
*2013 is the latest year for which information is available.
Source: Statistics Canada

INDICATOR L-3. QUALITY OF LIFE INDEX SCORES, 2015 (NEW YORK = 100)

	Global Rank	Americas Rank
Vancouver	**5**	**1**
Toronto	15	2
Ottawa	16	3
Montreal	24	4
San Francisco	27	5
Calgary	33	6
Boston	34	7
Honolulu	36	8
Chicago	43	9
Seattle	44	10
New York City	44	10

Source: Mercer Human Resource Consulting

INDICATOR L-4. ALL ITEMS INTER-CITY RETAIL PRICE INDEX (UNITS)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Montréal	93	93	93	95	95	95	95	93	93	93	94
Winnipeg	92	92	92	94	94	94	93	93	93	95	94
Charlottetown	93	94	94	94	95	97	93	93	94	95	95
Saint John	93	93	92	96	95	96	94	94	94	96	95
St. John's	95	95	93	98	97	96	95	94	95	98	97
Halifax	98	98	99	99	99	98	99	100	100	100	100
Regina	92	92	93	93	95	97	94	95	97	99	100
Edmonton	97	97	97	98	101	102	99	99	99	100	100
Ottawa	103	103	102	102	103	103	103	102	102	102	102
Vancouver	**102**	**102**	**104**	**103**	**101**	**101**	**103**	**105**	**105**	**104**	**103**
Toronto	110	110	109	107	107	107	107	107	107	108	108

Note: This index measures only the price differences for a specific basket of goods, which may or may not be representative of the overall cost of living for each specific city.
Source: Statistics Canada

Post-Secondary Outcomes

DACSO SURVEY: ELIGIBLE PARTICIPANTS AND RESPONSE RATES FOR PROGRAM AREA GRADUATES

Program	Eligible Graduates	Graduate Respondents	Response Rate
High Tech Program	**7,291**	**4,819**	**66%**
Physical and Life Sciences	197	142	72%
Computer and Information Sciences	1,806	1,177	65%
Engineering and Related Technologies	4,128	2,779	67%
Health and Clinical Sciences	1,160	721	62%

Source: BC Student Outcomes, DACSO Survey

BGS SURVEY: ELIGIBLE PARTICIPANTS AND RESPONSE RATES FOR PROGRAM AREA GRADUATES

Program	Eligible Graduates	Graduate Respondents	Response Rate
High Tech Program	**10,320**	**4,889**	**47%**
Physical and Life Sciences	5,227	2,452	47%
Computer and Information Sciences	1,875	897	48%
Engineering and Related Technologies	3,218	1,540	48%

Source: BC Student Outcomes, Baccalaureate Graduates Survey

DACSO HIGH TECHNOLOGY PROGRAMS

High Technology Programs	Percent of Graduates
Engineering Technology	56%
Computer and Information Sciences and Support Services	22%
Health Services and Health Sciences	15%
Library Science	3%
Science Technologies/Technicians	3%
Other	2%

Note: N = 4,819
Source: BC Student Outcomes, DACSO Survey

BGS HIGH TECHNOLOGY PROGRAMS

High Technology Programs	Percent of Graduates
Biological Science and Life Sciences	39%
Engineering	26%
Computer and Information Sciences	14%
Physical Sciences	11%
Engineering Technologies	6%
Mathematics	4%
Multi/Interdisciplinary Studies	0.3%

Note: N = 4,889

Source: BC Student Outcomes, Baccalaureate Graduates Survey

INDICATORS O-1, O-2, O-3 AND O-4 (A). EDUCATIONAL CHARACTERISTICS OF DACSO GRADUATES OF HIGH TECHNOLOGY PROGRAMS

Characteristics	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies	Health & Clinical Sciences
Satisfaction with education	98%	92%	94%	95%
Quality of instruction	96%	95%	94%	94%
Further studies since graduation	50%	28%	35%	15%

Note: In the DACSO Survey, respondents were asked to rate quality of instruction using a 5-point scale: very good, good, adequate, poor, and very poor. Percentages presented for DACSO quality of instruction include the response categories: very good, good, and adequate.
Source: BC Student Outcomes, DACSO Survey

INDICATORS O-1, O-2, O3 AND O-4 (B). EDUCATIONAL CHARACTERISTICS OF BACCALAUREATE GRADUATES OF HIGH TECHNOLOGY PROGRAMS

Characteristics	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies
Satisfaction with education	92%	90%	93%
Quality of instruction	94%	91%	91%
Further studies since graduation	72%	40%	32%

Note: In the BGS Survey, respondents were asked to rate quality of instruction using a 4-point scale: very good, good, poor, and very poor. Percentages presented for BGS quality of instruction include two response categories: very good and good.
Source: BC Student Outcomes, Baccalaureate Graduates Survey

INDICATORS O-5, O-6, O-7, O-8 AND O-9 (A). LABOUR FORCE CHARACTERISTICS OF DACSO GRADUATES OF HIGH TECHNOLOGY PROGRAMS

Characteristics	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies	Health & Clinical Sciences
Unemployment rate	16.8%	12.2%	11.7%	2.1%
Works for employer*	98%	90%	96%	99%
Full-time employment*	86%	86%	93%	78%
Job related to training*	79%	76%	83%	94%

* Of those respondents who indicated they were employed.
Source: BC Student Outcomes, DACSO Survey

INDICATORS O-5, O-6, O-7, O-8 AND O-9 (B). LABOUR FORCE CHARACTERISTICS OF BACCALAUREATE GRADUATES OF HIGH TECHNOLOGY PROGRAMS

Characteristics	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies
Unemployment rate	14.0%	7.4%	7.4%
Works for employer*	89%	84%	91%
Full-time employment*	76%	91%	98%
Job related to training*	53%	78%	85%

*Of those respondents who indicated they were employed. **Of employed respondents; reported for main job.

Note: In the DACSO Survey, respondents were asked if they were paid workers or self-employed in their main job. In the BGS Survey, respondents were asked if they were paid workers, self-employed, or both a paid worker and self-employed. Percentages presented for the BGS Survey represent the percentage of respondents who indicated they were a paid worker and those who indicated they were both a paid worker and self-employed.

Source: BC Student Outcomes, Baccalaureate Graduates Survey

INDICATOR O-10 (A). TOP FIVE OCCUPATIONS OF DACSO GRADUATES OF HIGH TECHNOLOGY PROGRAMS

	High Technology Program			
Top 5 Occupations	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies	Health & Clinical Sciences
1	Technical Occupations in Physical Sciences - 44%	Computer and Info. Systems Professionals - 24%	Technical Occupations in Architecture, Drafting, Survey & Mapping - 19%	Medical Technologists & Technicians - 91%
2	Medical Technologists & Technicians - 13%	Technical Occupations in Computer & Info Systems - 24%	Tech. Occupations in Civil, Mechanical & Industrial Engineering - 14%	General Office Workers - 1%
3	Technical Occupations in Life Sciences - n/a	Creative Designers and Craftpersons - 8%	Computer & Info Sytems Professionals - 9%	Assisting Occupations in Support of Health Services - 1%
4	Supply chain logistics, tracking & scheduling co-ordination - n/a	Technical Occupations in Libraries, Archives, etc. - 4%	Technical Occupations in Electronics & Electrical Engineering - 7%	Retail Salespersons - #
5	University Professors & Assistansts - #	Library, Correspondence & Info Clerks - 3%	Technical Occupations in Computer & Info Systems - 6%	Technical Occupations in Life Sciences - #

Percentages are of employed respondents from the indicated program.
# indicates numbers are too low to report.
Source: BC Student Outcomes, DACSO Survey

INDICATOR O-10 (B). TOP FIVE OCCUPATIONS OF BACCALAUREATE GRADUATES OF HIGH TECHNOLOGY PROGRAMS

	High Technology Program		
Top 5 Occupations	Physical & Life Sciences	Computer & Information Sciences	Engineering & Related Technologies
1	University Professors & Assistants - 10%	Computer and Info. Systems Professionals - 53%	Civil, Mechanical, Electrical & Chemical Engineers - 43%
2	Secondary & Elementary School Teachers & Counsellors - 7%	Technical Occupations in Computer & Info Systems - 8%	Computer and Info. Systems Professionals - 15%
3	Technical Occupations in Physical Sciences - 6%	Secondary & Elementary School Teachers & Counsellors - 4%	Other Engineers - 12%
4	Technical Occupations in Life Sciences - 6%	Creative Designers & Craftpersons - 3%	Managers in Construction & Transportation - 2%
5	Policy & Program Officers, Researchers & Consultants - 5%	University Professors & Assistants - 2%	Technical Occupations in Civil, Mechanical, and industrial Engineering - 2%

Source: BC Student Outcomes, Baccalaureate Graduates Survey

INDICATORS O-11, O-12 AND O-13 (A). LABOUR FORCE CHARACTERISTICS OF DACSO GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

Characteristics	Employed in High Technology Occupations	Not Employed in High Technology Occupations
Works for employer:*	95%	95%
Full-time employment:*	84%	78%
Job related to training:*	93%	78%

* Of those respondents who indicated they were employed; reported for main job
Source: BC Student Outcomes, DACSO Survey

INDICATORS O-11, O-12 AND O-13 (B). LABOUR FORCE CHARACTERISTICS OF BACCALAUREATE GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

Characteristics	Employed in High Technology Occupations	Not Employed in High Technology Occupations
Works for employer:*	90%	88%
Full-time employment:*	96%	83%
Job related to training:*	85%	73%

* Of those respondents who indicated they were employed. **Of employed respondents; reported for main job.
Note: In the DACSO Survey, respondents were asked if they were paid workers or self-employed in their main job. In the BGS Survey, respondents were asked if they were paid workers, self-employed, or both a paid worker and self-employed. Percentages presented for the BGS Survey represent the percentage of respondents who indicated they were a paid worker and those who indicated they were both a paid worker and self-employed.
Source: BC Student Outcomes, Baccalaureate Graduates Survey

INDICATOR O-14 (A). INCOME FOR DACSO GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

	Median Hourly Wage
Not employed in High Technology Occupations	$20
Employed in High Technology Occupations	$25
Top 3 High Technology Occupations:	
Medical Technologists and Technicians (excl. Dental)	$27
Computer and Information Systems Professionals	$24
Technical Occupations in Electronics and Electrical Engineering	$23

Note: Results presented are for those graduates who were employed at the time they were surveyed; reported for main job
Source: BC Student Outcomes, DACSO Survey

INDICATOR O-14 (B). INCOME FOR BACCALAUREATE GRADUATES EMPLOYED IN HIGH TECHNOLOGY OCCUPATIONS

	Median Annual Income
Not employed in High Technology Occupations	$45,000
Employed in High Technology Occupations	$58,000
Top 3 High Technology Occupations:	
Computer and Information Systems Professionals	$60,000
Civil, Mechanical, Electrical, and Chemical Engineers	$65,000
Technical Occupations in Physical Sciences	$41,800

Note: Results presented are for those graduates who were employed at the time they were surveyed; reported for main job
Source: BC Student Outcomes, Baccalaureate Graduates Survey

Reference Tables

REFERENCE TABLE 1. TOTAL POPULATION

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CDA	32,242,364	32,570,505	32,887,928	33,245,773	33,628,571	34,005,274	34,342,780	34,751,476	35,155,499	35,543,658	35,851,774
NL	514,315	510,584	509,039	511,543	516,729	521,972	525,037	526,895	528,017	529,069	527,756
PE	138,064	137,865	137,721	138,764	139,909	141,678	144,038	145,259	145,441	146,162	146,447
NS	937,899	937,869	935,071	935,865	938,194	942,073	944,469	944,835	942,991	942,387	943,002
NB	748,044	745,609	745,407	746,855	749,954	753,044	755,530	756,836	755,718	754,578	753,871
QC	7,581,192	7,631,873	7,692,736	7,761,504	7,843,475	7,929,365	8,007,656	8,084,768	8,154,761	8,214,885	8,263,600
ON	12,527,990	12,661,566	12,764,195	12,882,625	12,997,687	13,135,063	13,263,544	13,409,558	13,551,004	13,677,687	13,792,052
MB	1,178,296	1,183,524	1,189,366	1,197,774	1,208,589	1,220,930	1,233,728	1,250,406	1,265,342	1,280,242	1,293,378
SK	993,523	992,302	1,002,048	1,017,346	1,034,782	1,051,425	1,066,349	1,087,223	1,106,122	1,122,283	1,133,637
AB	3,321,638	3,421,361	3,514,031	3,595,755	3,679,092	3,732,573	3,790,191	3,888,552	4,007,748	4,120,897	4,196,457
BC	**4,195,764**	**4,241,691**	**4,290,988**	**4,349,412**	**4,410,679**	**4,465,924**	**4,499,139**	**4,542,578**	**4,582,607**	**4,638,415**	**4,683,139**

Source: Statistics Canada

REFERENCE TABLE 2. POPULATION AGED 15 YEARS AND OLDER

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CDA	26,542,962	26,916,126	27,261,353	27,625,211	28,005,015	28,380,802	28,715,119	29,108,609	29,483,736	29,833,696	30,102,378
NL	433,950	432,580	432,076	434,672	439,437	444,633	447,945	450,108	451,632	452,935	452,126
PE	113,536	114,022	114,395	115,541	116,659	118,520	120,864	122,208	122,413	123,006	123,195
NS	785,587	789,659	789,774	792,614	796,669	801,992	806,416	808,761	808,800	809,270	810,624
NB	625,967	626,676	628,237	631,133	635,249	639,363	642,896	644,894	644,937	644,670	644,813
QC	6,312,853	6,381,280	6,455,191	6,530,866	6,613,369	6,699,012	6,774,231	6,843,086	6,900,348	6,947,217	6,984,589
ON	10,256,773	10,406,043	10,524,444	10,651,257	10,774,910	10,921,357	11,057,520	11,212,533	11,358,301	11,486,099	11,599,068
MB	947,154	954,849	961,206	968,918	978,615	989,539	1,000,740	1,015,498	1,028,915	1,041,416	1,052,590
SK	799,736	801,959	811,214	824,367	839,442	853,548	866,008	882,895	897,971	910,039	917,755
AB	2,685,261	2,775,228	2,859,320	2,931,200	3,003,802	3,048,052	3,095,446	3,177,375	3,276,609	3,369,943	3,425,590
BC	**3,503,056**	**3,553,590**	**3,603,968**	**3,661,951**	**3,722,977**	**3,779,260**	**3,815,842**	**3,862,813**	**3,904,472**	**3,958,871**	**4,000,845**

Source: Statistics Canada

REFERENCE TABLE 3. POPULATION OF IMMIGRANTS AGED 25 YEARS OR OLDER

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	148,940	163,966	159,518	150,427	159,278	164,326	182,645	162,507	173,095	179,786	180,390
NL	340	303	322	322	429	402	499	472	506	581	613
PE	177	188	334	565	853	1,015	1,567	1,051	651	634	999
NS	1,092	1,167	1,600	1,567	1,719	1,551	1,565	1,416	1,579	1,776	1,829
NB	502	630	981	1,002	1,119	1,184	1,324	1,212	1,362	1,295	1,726
QC	28,866	28,196	29,018	29,786	30,087	33,549	36,479	34,686	37,101	35,787	34,409
ON	78,410	87,135	79,186	70,333	71,451	69,772	77,014	64,987	67,123	72,709	68,004
MB	3,986	4,311	5,520	6,078	6,346	7,782	9,158	9,412	8,229	8,199	10,091
SK	1,117	1,202	1,585	2,047	2,769	4,025	4,549	5,348	6,821	6,937	7,567
AB	10,176	12,068	13,224	13,222	15,455	17,366	21,223	20,093	23,893	24,894	29,167
BC	**24,274**	**28,766**	**27,748**	**25,505**	**29,050**	**27,680**	**29,267**	**23,830**	**25,830**	**26,974**	**25,985**

Canada is sum of provinces (excludes Territories & unknown)
Source: Citizenship and Immigration Canada

REFERENCE TABLE 4. UNEMPLOYMENT RATE FOR ALL OCCUPATIONS (%)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	7.2	6.8	6.3	6.0	6.1	8.3	8.1	7.5	7.3	7.1	6.9
NL	15.6	15.2	14.8	13.5	13.3	15.5	14.7	12.6	12.3	11.6	11.9
PE	11.2	10.9	11.1	10.2	10.9	11.9	11.4	11.0	11.2	11.6	10.6
NS	8.8	8.4	7.9	8.0	7.6	9.2	9.6	9.0	9.1	9.1	9.0
NB	9.8	9.7	8.7	7.5	8.5	8.7	9.2	9.5	10.2	10.3	9.9
QC	8.5	8.2	8.1	7.3	7.2	8.6	8.0	7.9	7.7	7.6	7.7
ON	6.8	6.6	6.3	6.4	6.6	9.1	8.7	7.9	7.9	7.6	7.3
MB	5.3	4.7	4.3	4.4	4.2	5.2	5.4	5.5	5.3	5.4	5.4
SK	5.3	5.1	4.7	4.2	4.0	4.9	5.2	4.9	4.7	4.1	3.8
AB	4.7	4.0	3.5	3.5	3.6	6.5	6.6	5.4	4.6	4.6	4.7
BC	**7.2**	**5.9**	**4.8**	**4.3**	**4.6**	**7.7**	**7.6**	**7.5**	**6.8**	**6.6**	**6.1**

Source: Statistics Canada

REFERENCE TABLE 5. GROSS DOMESTIC PRODUCT ($ MILLION)*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	1,331,178	1,417,028	1,492,207	1,573,532	1,652,923	1,567,365	1,662,130	1,769,921	1,822,808	1,892,193	1,973,043
NL	19,651	22,249	24,573	29,065	31,572	25,001	29,085	33,539	32,032	34,991	33,514
PE	4,026	4,257	4,425	4,630	4,754	4,927	5,222	5,424	5,573	5,783	6,003
NS	30,871	32,127	32,701	33,941	35,416	34,931	36,849	37,652	37,835	38,576	39,077
NB	24,408	25,552	26,718	28,287	28,779	28,857	30,213	31,500	31,723	31,857	32,056
QC	271,833	280,133	290,595	306,029	314,380	314,541	328,138	344,735	354,040	361,211	370,064
ON	533,365	556,635	578,241	601,735	608,446	597,882	630,989	659,743	680,084	693,210	721,970
MB	41,022	43,082	46,622	49,726	52,154	50,804	53,308	56,197	59,781	61,897	64,077
SK	41,529	44,889	46,171	52,381	67,619	60,080	63,368	74,821	77,957	83,496	82,780
AB	194,484	225,460	245,929	260,964	296,072	245,690	270,049	299,521	312,485	344,452	375,756
BC	**162,293**	**174,855**	**188,219**	**198,325**	**204,406**	**196,250**	**205,117**	**216,786**	**221,414**	**226,605**	**237,188**

* 2014 is the latest year for which information is available.
Source: Statistics Canada

REFERENCE TABLE 6. GROSS DOMESTIC PRODUCT ($2007 MILLION, CHAINED)*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CANADA	1,455,715	1,502,318	1,541,730	1,573,532	1,589,273	1,542,396	1,589,956	1,639,900	1,668,524	1,705,533	1,747,709
NL	24,396	25,105	26,123	29,066	28,629	25,740	27,164	27,946	26,719	28,272	27,695
PE	4,360	4,518	4,643	4,630	4,683	4,695	4,800	4,895	4,952	5,051	5,126
NS	32,862	33,247	33,487	33,941	34,618	34,721	35,693	35,884	35,567	35,562	35,758
NB	27,245	27,457	28,055	28,287	28,501	28,080	28,643	28,702	28,417	28,530	28,436
QC	290,941	295,263	298,803	306,029	311,945	309,359	315,708	321,647	324,993	329,038	334,103
ON	567,600	585,843	596,797	601,735	601,723	582,904	600,131	614,606	622,717	631,068	648,352
MB	45,527	46,786	48,502	49,726	51,544	51,464	52,736	54,045	55,674	57,005	58,301
SK	50,009	51,312	50,541	52,382	55,139	52,195	54,647	57,545	58,514	61,929	63,127
AB	231,198	241,330	256,614	260,964	265,165	250,510	262,720	279,655	290,544	305,353	320,113
BC	**175,571**	**184,267**	**192,385**	**198,325**	**199,768**	**194,987**	**200,324**	**206,360**	**211,427**	**215,901**	**222,868**

* 2014 is the latest year for which information is available.
Source: Statistics Canada

BC STATS

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